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IC21: THE INTELLIGENCE COMMUNITY IN THE 21ST CENTURY

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IC21: The Intelligence Community in...

HEARINGS

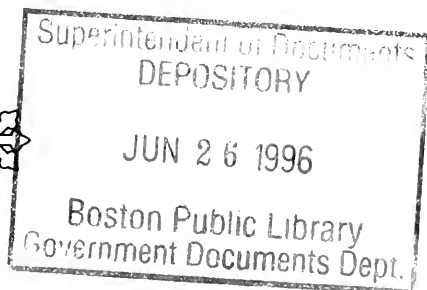
BEFORE THE

PERMANENT SELECT COMMITTEE ON INTELLIGENCE HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTH CONGRESS

FIRST SESSION

MAY 22—DECEMBER 19, 1995



IC21: THE INTELLIGENCE COMMUNITY IN THE 21ST CENTURY

HEARINGS BEFORE THE PERMANENT SELECT COMMITTEE ON INTELLIGENCE HOUSE OF REPRESENTATIVES ONE HUNDRED FOURTH CONGRESS FIRST SESSION

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IC21: THE INTELLIGENCE COMMUNITY IN THE 21ST CENTURY

MONDAY, MAY 22, 1995

HOUSE OF REPRESENTATIVES,
PERMANENT SELECT COMMITTEE ON INTELLIGENCE,
Washington, DC.

The Committee met, pursuant to call, at 2 p.m., in room 2172, Rayburn House Office Building, the Honorable Larry Combest (Chairman of the Committee) presiding.

Present: Representatives Combest, Dornan, Hansen, Lewis, Goss, McCollum, Castle, Dicks, Dixon, Torricelli, Coleman and Laughlin.

Staff Present: Mark M. Lowenthal, Staff Director; Louis Dupart, Chief Counsel; Michael W. Sheehy, Minority Counsel; Catherine D. Eberwein, Professional Staff Member; Melissa Golder, Staff Assistant; L. Christine Healey, Professional Staff Member; Calvin R. Humphrey, Professional Staff Member; Kenneth M. Kodama, Professional Staff Member; Mary Jane Maguire, Chief, Registry/Security; Kirk McConnell, Professional Staff Member; Bill McFarland, Deputy for Registry/Security; Mike Meermans, Professional Staff Member; John I. Millis, Professional Staff Member; Stephen D. Nelson, Assistant Staff Director; Lydia Olson, Chief Clerk; Susan Ouellette, Professional Staff Member; Timothy R. Sample, Professional Staff Member; and Caryn Wagner, Professional Staff Member.

The CHAIRMAN. The Committee will come to order.

Before we begin the proceedings, I would like to pause to acknowledge the sudden passing of Les Aspin. This Committee is deeply saddened by the loss of Mr. Aspin, a man who served this body with distinction for over 20 years. He was held in highest esteem by Members of both sides of the aisle, and his devotion to the Nation and to its security was surpassed by few.

This Committee is also saddened by the loss for the Intelligence Community. Under Mr. Aspin's leadership, the Presidential Commission has forged a close working relationship with this Committee on the critical task of preparing an Intelligence Community for the future. Mr. Aspin brought to this process his dynamic intellect and vision that would have served to maintain the highest standards of professionalism in the Intelligence Community and would have proven, once again, his extreme commitment and devotion to this country.

Mr. Aspin will be missed, as a caring individual, as a sincere professional and a superb statesman. The thoughts and the hearts of the Members of this Committee are with those who are closest to him during this very difficult time of mourning.

I am pleased to open the first of our hearings on the Committee's major effort for the 104th Congress: IC21: The Intelligence Community in the 21st Century.

Last year, Congress and the executive branch came to an agreement that major work needed to be done to help transform the Intelligence Community from an effective instrument that helped us win the Cold War to one that can continue to be responsive to national security needs as we enter the 21st century.

I know that every Member of this Committee has the highest regard for the ability and dedication of the men and the women of the Intelligence Community. At the same time, we recognize that no enterprise as large as the Intelligence Community can be entirely trouble free and that it is not reasonable to expect that it can make major changes of emphasis, direction and even culture on its own.

We begin this effort without any preconceptions save one, that the United States still has a need for an Intelligence Community capable of producing the highest-quality analysis in carrying out the most sensitive operations. This is a necessary function of our government. Beyond that, everything is on the table for examination and debate—forms, functions and roles.

Since the end of the Cold War, there has been a lot of glib talk about how the mission of the Intelligence Community has changed. I disagree. The basic mission of the Intelligence Community continues to be to supply information and analysis to the policymaker in a timely fashion that allows for informed, knowledgeable decision-making—especially in the areas of foreign policy and national security. So, the mission has not changed; but the nature of targets, threats and opportunities has changed.

I recognize that we are but one of several parallel efforts studying the Intelligence Community. Most prominent among these others is the President's Commission on the Roles and Capabilities of the United States Intelligence Community. I do not see this as a competition. Our staff and the Commission's are in close contact in what should be, and is, a cooperative effort. As I have said, I see this as a marketplace of ideas. I firmly believe that we can all benefit from having as broad a view as possible regarding the problems and potential solutions.

That said, let me also emphasize that this effort, IC21, is not about fixing problems. This sounds as though the Intelligence Community is dysfunctional, which clearly is not the case. Further, this is not an effort to reduce the Community to save money. There are budget realities to be recognized, but too often budget charges force people to eliminate programs and ideas based on cost rather than intelligence need. We come at this issue by looking first at what the intelligence needs will be in the future, and then look at what type of Intelligence Community can best address those needs.

I want to note that this is an open hearing. I believe that many of these IC21 hearings could be open and should be open, so that we can also build a political consensus within the House, the Congress and the public at large for any changes that we may deem necessary.

We are most fortunate to begin our IC21 hearings with a panel as distinguished as this one. Since the appointment of the first Di-

rector of Central Intelligence (DCI) in 1946, 17 men have held this post. We have today before us six of these individuals representing over 75 years of intelligence experience.

I would note, in addition, that the same panel also affords us the opportunity to get the opinions of two former ambassadors, former Secretaries of Defense and Energy, former U.S. fleet commander and a former Director of the FBI. I am not sure if such a gathering of former DCIs has ever been held before, but I am most pleased to see that it is today.

As Mr. Dicks and I said in our letter to you, we are especially interested in your views on the following:

The major strengths and weaknesses of the Intelligence Community;

Possible steps to address areas of weakness;

Major stress points between the Intelligence Community as a whole, the DCI in particular, and senior policy customers;

An assessment of the role and capabilities of the DCI as that office is currently structured and empowered;

And, finally, changes that you might make in the Intelligence Community in view of the issues we as a Nation are likely to face in the 21st century.

We look forward to the special vantage point each of you can give us. We will hear brief opening statements from each of you, in order of your service as DCI, beginning with Ambassador Helms. Some of you have also given us statements in writing, and those will be included in the record.

But, first, let me turn to Mr. Dicks for any statement that he may have.

Mr. DICKS. Mr. Chairman, I commend you for ensuring that the Committee plays a role in addressing the important question of how the Intelligence Community should be organized and what it should do in the 21st century. With the year 2001 already part of the future years' defense plan, it is not a moment too soon to begin this activity.

Before outlining my hopes for these hearings, I, too, want to pay tribute to Les Aspin, our former colleague and one of the first Members appointed to the House Intelligence Committee. We are all shocked and saddened by his untimely death. He made many contributions as a Member of Congress, Chairman of the Armed Services Committee and Secretary of Defense to preserving our national security.

Les loved ideas and concepts, to think through seemingly intractable problems with logic and reason. The bigger the challenge, the more he liked to devote his considerable intellect and energies to it. We will miss his leadership in the executive branch's review of the roles and missions of intelligence, and we will miss his considerable skills as we confront the uncertainties of the future.

It is a tall order to plan for the Intelligence Community in the 21st century. It is particularly hard, at this time, to know whether the lessons of the past will have relevance to the future; what methods will be possible with new technology, and what new challenges our country will face. I hope, Mr. Chairman, that throughout these important hearings we will carefully keep our examination of the issues in context. I mean this in four ways.

First, we must be aware constantly that intelligence is becoming an even more integral part of the modern battlefield. We talk about support to military operations as an important mission of U.S. intelligence, but we may not yet fully grasp the ramifications of how new technology will ensure a seamless web of intelligence, command, control and communications to the warfighter. This fact should be an important consideration in how we think about the issue of the DCI's authority over all national and tactical intelligence.

Secondly, we must remember intelligence is a handmaiden to policy. I do not mean that intelligence analysis is or should be tailored to the prevailing political winds. Rather, intelligence must provide early warning of potential crises or assist in developing sound policy responses to national security threats.

Intelligence is a support function, not an end in itself, and the intelligence requirements of the future will have everything to do with the national security concerns of the policymakers of the moment. Thus, it may not be as important for us to be able to identify with specificity future intelligence targets as it is for us to ensure that the Community has the flexibility necessary to respond quickly and competently to those targets, whatever they may be.

Third, intelligence can no longer be practiced as an arcane art. We should remember the Intelligence Community is not a university of scholars writing for each other. In fact, some good steps have been taken to ensure analysis and production are more relevant as well as more timely than in the past. We are no longer locked in an eternal bipolar struggle—where the accretion of compartmented detail might solve the enigma of our rival. Now and in the future, events will unfold quickly and unpredictably, and we will more and more have to figure out how we can make information acquired by the Intelligence Community more readily available to those who can help U.S. interests, while still protecting sources and methods.

Finally, we must be mindful that the Intelligence Community is only one function of our federal government. It is unlikely the taxpayers will accept, without a compelling public justification, even nominal growth in intelligence budgets while civilian agencies, which touch on our immediate quality of life, suffer significant, real reductions.

So, at a time of revolutionary change in technology, tightly constrained budgets and evolving national security missions, we have an exciting challenge before us and very impressive witnesses from whom to hear. I hope they will tell us how they view the role of the DCI within the Intelligence Community.

Is the Director to be a coequal with the Secretary of Defense on intelligence issues and decisions or is the DCI to have pre-eminence? What additional authorities do our witnesses believe a DCI needs to improve the management of the Intelligence Community and should those authorities be legislatively proscribed or left to negotiation within the executive branch?

I look forward to receiving some insight on these questions as well as the other issues I know our distinguished witnesses will want to cover. I, too, am pleased that we have such an impressive group of leaders, people who have been at the command of the in-

telligence agencies and who have tremendous personal experience on these subjects, and I look forward to their testimony.

Thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentleman.

I again want to thank each of you very much for doing this. I know you all are very busy doing other things. But your presence here today, I think, symbolizes the concern that those of you who have been in this Community—some more recent than others—the interests that you have, and we would be, I think, very remiss if we did not try to learn from the knowledge that you bring to this.

I would turn on the timer for 10 minutes only as a basic indicator. The last thing I would want you to believe is that we would be trying to cut you off, because we have asked you here to hear from you and to pick your minds on these things. I again want to tell you how much I sincerely appreciate each of your attendance here.

The CHAIRMAN. We will begin, Ambassador Helms, with you. Thank you.

STATEMENT OF RICHARD HELMS

Mr. HELMS. Thank you, Mr. Chairman.

I welcome the opportunity to testify before this Committee with the other former Directors of Central Intelligence. As the senior living member, I feel that I should point out that I have not worked in the CIA for over 20 years. I was employed there in one capacity or another from 1947 until 1973, having been Director of Central Intelligence for six and one-half years. During most of my career, I worked in the Directorate of Operations. Given these facts, I do not feel qualified to comment on issues involving the strengths or the reorganization of the Intelligence Community as it is today.

I would appreciate, however, the opportunity to present my views, actually my objections, to the often-suggested creation of a Director of National Intelligence. In brief, such an office would inevitably place its occupant in competition with the National Security Adviser and other White House officials for the President's daily attention.

Further, this DNI would have few, if any, "troops" of his own and would therefore be at a disadvantage in meetings well briefed Cabinet and other intelligence leaders. To provide support, another bureaucracy would need to be created.

Last, but not least, it should be kept in mind that the Secretary of Defense, who has a strong hand over much of the Intelligence Community, would hardly be likely to want to be ordered around by a czar, particularly on budget and personnel matters.

The current system, involving coordination between the Director of Central Intelligence and the Secretary of Defense, appears to be working reasonably well after much trial and adjustment. It would not seem to need dramatic change, even though modification may be in order, based on the findings of this Committee as well as those of the Aspin commission.

May I now move to another subject.

As you are well aware, the Central Intelligence Agency is in the public mind the most controversial element of the Intelligence

Community. Mention CIA and the listener says, "spy agency". That is the "hot button" with the press and the public.

The fact that the core element of the Agency, as mandated by Congress in 1947, is the Directorate of Intelligence has been almost totally forgotten in the public mind, if it was ever known. The Directorate of Science and Technology has been overshadowed by its contribution of personnel and creative technology to the National Reconnaissance Office. Therefore, let me address for a few moments certain problems confronting the Directorate of Operations, (once called Plans).

This Directorate is responsible for espionage, counter intelligence and covert action—including certain paramilitary operations. Its placement in CIA was arranged by Congress under the language in the National Security Act of 1947, which reads that the Agency shall, "perform for the benefit of the existing intelligence agencies such additional services of common concern as the National Security Council determines can be more efficiently accomplished centrally."

Supporting activities essential to this highly specialized type of activity have been authorized to CIA by congressional legislation. Such activities include the use of confidential funds, specialized communications, contracting authority on special projects, and so forth. In sum, Congress and the executive decided that this irregular type of work should be housed in CIA rather than in any other department or agency of the U.S. Government. This placement could, of course, be changed if it were found to be desirable, but the more one considers possible alternatives the more one notes daunting objections.

In addition, espionage activity requires secrecy. As one of the oldest of human endeavors, it is conducted today in much the same way it has been for centuries. This cannot be changed to accommodate American desires for "openness" or for the anathema of many toward such illegal actions.

These points are made because the public impression of CIA is that it is out of bounds and therefore not worthy of public support, even though most Americans want the protection it provides. Thus the Agency has no constituency. For protection it needs both executive and congressional support. That these relationships have been tattered of late does not alter the fact that repair work must be done promptly and effectively.

Espionage organizations resemble a Swiss watch: difficult to put together, easily damaged. Accountability both inside and outside the CIA must be restored, and quickly.

That concludes my testimony, Mr. Chairman.

The CHAIRMAN. Thank you very much, Ambassador. We will hold questions until everyone has completed their initial statements and then we will come back either individually or as a group.

[The statement of Mr. Helms follows:]

STATEMENT OF RICHARD HELMS ON IC21

Mr. Chairman,

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Community, would hardly be likely to want to be ordered around by a Czar particularly on budget and personnel matters. The current system, involving coordination between the Director of Central Intelligence and the Secretary of Defense, appears to be working reasonably well after much trial and adjustment. It would not seem to need dramatic change, even though modification may be in order based on the findings of this Committee as well as those of the Aspin Commission.

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the fact that repair work must be done promptly and effectively. Espionage organizations resemble a Swiss watch: difficult to put together, easily damaged. Accountability both inside and outside the CIA must be restored, and promptly.

That concludes my testimony, Mr. Chairman.

The CHAIRMAN. Dr. Schlesinger.

STATEMENT OF JAMES SCHLESINGER

Mr. SCHLESINGER. Thank you, Mr. Chairman.

I agree with much of what Mr. Helms has said, and I agree with the two opening statements by you, Mr. Chairman, and by Mr. Dicks. I think that it is not clear to me that you need much help from the outside.

Mr. Chairman, Members of the Committee, I welcome the opportunity to testify, along with other former DCIs, on the condition and challenges to the Intelligence Community. In the time allotted, I must necessarily be brief. So I can only touch on a few major points.

First, today, intelligence operations are under assault. One can see this clearly in newspaper editorials and in ill-informed commentary in the daily press and on television. Why is this so? No doubt, it reflects in part a zest for scandal that motivates our competitive media, but it also reflects a deeper ambivalence about such intelligence operations that mark some democratic societies, and most notably the American democracy. This society has regularly been uncomfortable with the operations that, in their nature, must be conducted in secret, and which are not subject to extensive public debate. When there is no clear and present external threat to concentrate the mind, this ambivalence spills over into suspicion and, in some cases, repugnance.

The current expressions of concern are not unique. They have occurred before. Indeed, the current assault is relatively mild and not widespread. Perhaps the classic example of the deep-seated American misgiving regarding intelligence operations occurred in the late 1920s, when Secretary of State Henry Stimson partially rolled up this Nation's capability in signals intelligence in sniffing that "gentleman do not read each other's mail."

That fastidiousness was enthusiastically abandoned during World War II, which could well have turned out less favorably had we not taken a different attitude. Even after World War II there were expressions of concern, when this Nation established the Central Intelligence Agency. Yet, the Soviet threat was then clear enough and memories of Pearl Harbor recent enough to overcome such misgivings. Another outbreak occurred after Vietnam—and after Watergate—with an orgy of revelations that clearly got out of hand.

I stress this question of atmosphere for several reasons. First, this Committee is interested in the role and influence of the Director of Central Intelligence. When the Central Intelligence Agency is under assault, the authority of the DCI over the Intelligence Community inevitably is weakened. His clout is reduced. He is occupied, indeed preoccupied, with defending his turf. And the attentiveness of his customers is probably reduced.

Second, such periods of public outcry are unavoidably detrimental to our liaison relationships with other services, both immediately and in the longer run. Foreign services become reluctant to run the risk that their secrets might be publicly revealed. Moreover, in the post-Cold War environment, with its broader array of problems, somewhat less subject to technical collection, this Nation

will be more dependent upon those liaison relationships to be well informed.

Third, and perhaps most important, with the expansion—and here I reiterate what Mr. Helms has said—with the expansion of congressional oversight in these last 20 years has come also to the oversight committee the responsibility to nurture and to support our intelligence system. Intelligence has little, if any, public constituency. If the political authorities in the executive and the legislature do not support intelligence, there is no one else.

I turn to my second subject, Mr. Chairman. Intelligence collection may prove over time to be less costly than it was during the Cold War. But certainly it will be no easier and quite possibly it will be harder. Clearly, the array of problems that attracts public attention is now far more diverse. One need only survey the headlines of recent years to recognize the greater range of problems and regions on which we focus.

Moreover, with the much lower stakes in each of these problems, there is a much lower tolerance for error. Significant casualties or other noteworthy setbacks may quickly lead to public disenchantment and the abandonment of a policy. Consequently, the requirement for accurate intelligence is thus increased.

The recent confessions of Mr. McNamara regarding how he and his colleagues misjudged the hard realities of Vietnam in the 1960s underscore this point. Mr. McNamara asserts, in effect, that the then administration misjudged the enemy's will, the determination and steadfastness of his troops—incidentally, a contrast to the Gulf War with Iraq—and the support of the Vietnamese population for the other side.

Moreover, though he does not acknowledge it, the failure properly to assess intelligence on the flow of supplies through the Cambodian port of Sihanoukville meant both a misconception of the problem and a misdirection of our efforts.

I dwell on this issue at some length because the intelligence challenge in the years ahead will be much more like Vietnam than the challenge of the Soviet Union and the Warsaw Pact to the West.

Third, let me try to illustrate how this more diverse set of problems will increase the challenge to intelligence in the years ahead. I shall do so in two realms: military technology and economics.

In the years ahead, we must anticipate that a wider array of military technologies will be available to the several low-income, Third World nations with which we may clash. Both the knowledge of these technologies and the prospective sources of supply for them continue to expand. We must be alert to which countries have access to which technologies, and how we might counter them. Particularly is this necessary if we are to hold down casualties to a level acceptable to the public.

Let me cite a simple example. In the Gulf War, Saddam Hussein was surprised and stunned by our exploitation of the newly developed global positioning system. It meant that our forces could rapidly advance in a wide swing through the desert in a manner that Saddam was confident would not be achievable. But today, knowledge of that GPS signal has become nigh a universal. It will continue to be available everywhere, and we must now anticipate that potential foes will attempt to utilize those signals.

In addition—in addition, commercial imagery of good quality is becoming ever more widely available, with resolution far better than we ourselves enjoyed a quarter of a century ago. Taken together, the GPS signal could provide navigation for cheap precision-guided munitions to a target located for that potential foe by the worldwide availability of commercial imagery.

Therefore, we will have to have nation-specific information on how others might exploit these advanced technologies. That will pose an immense challenge for intelligence, if we are effectively to counter the use by others of technologies, which in the past they would not have been in a position to exploit. More broadly, the range of opportunities now available to other states to exploit modern sensors and modern electronics will pose a deep and fundamental challenge to our intelligence-gathering and assessment. In this effort, the Intelligence Community must enjoy the steady support of the Congress.

Let me turn for a moment to the question of economics. In recent years, this Nation has displayed a propensity for using economic weapons in a wide and growing range of confrontations. If we are not to be quick on the particular, we must be able to assess how economic sanctions might affect a nation that we seek to influence. Will the People's Republic of China be impressed by a threat to terminate Most Favored Nation treatment? To what extent might the old regime in South Africa be influenced by economic sanctions, or a military junta in Haiti?

Such questions are normally those of assessing the will on the other side. It is far more than a matter of sending signals. If we are engaged in more than symbolism, the question is whether such sanctions will be supported by allies, by the international community. In recent years, we have attempted to impose economic sanctions on North Korea, Libya, Iraq and Iran, and on others, with varying and usually limited support from our allies.

In recent years, economic sanctions have become this Nation's tool of choice. But the question must be whether such sanctions would be effective in achieving our stated goals. I submit that such questions are inherently so subtle and so inherently difficult that they must be analyzed by the Intelligence Community, a group detached from those policymakers who inevitably become policy advocates. Only good intelligence, which is listened to, can be the basis of effective policy.

Mr. Chairman, I have exhausted my time. Let me close with this final observation. Of late, we have heard a great deal about restructuring. But restructuring is not the answer. At best, it is only a small part of the answer. Nonetheless, in this country it is a common illusion that restructuring will save immense sums.

In most cases, money is saved only through curtailing operations. So I hope, Mr. Chairman, that this Committee will not be beguiled by the fascinating game of restructuring. Changing wiring diagrams will provide only modest results. Organizational charts themselves are likely to be misleading, because policymakers like to have intelligence responsive to them, and are likely to hide away assets for intelligence operations under a different name if the attempt at centralization of intelligence goes too far.

Restructuring may be the source of endless speculation, endless discussion and endless allure, but in the future, as in the past, the real challenge in intelligence will remain: the astute definition and careful analysis of the substantive problem.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Schlesinger.

[The statement of Mr. Schlesinger follows:]

EMBARGOED UNTIL
2:00p.m.
22 MAY 1995

STATEMENT OF
JAMES SCHLESINGER
BEFORE THE
PERMANENT SELECT COMMITTEE ON INTELLIGENCE
U. S. HOUSE OF REPRESENTATIVES

22 MAY 1995

Mr. Chairman, Members of the Committee:

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The current expressions of concern are not unique. They have occurred before. Indeed the current assault is relatively mild and not widespread. Perhaps the classic example of the deep-seated American misgiving regarding intelligence operations occurred in the late 1920's, when Secretary of State Henry Stimson partially rolled up this nation's capability in signals intelligence—in sniffing that "gentlemen do not read each other's

mail". (That fastidiousness was enthusiastically abandoned during World War II, which could well have turned out less favorably had we not taken a different attitude.) Even after World War II there were expressions of concern, when this nation established the Central Intelligence Agency. Yet, the Soviet threat was then clear enough and memories of Pearl Harbor recent enough—to overcome such misgivings. Another outbreak occurred after Vietnam (and after Watergate)—with an orgy of revelations that clearly got out of hand.

I stress this question of atmosphere for several reasons. First, this Committee is interested in the role and influence of the Director of Central Intelligence. When the Central Intelligence Agency is under assault the authority of the DCI over the Intelligence Community inevitably is weakened. His clout is reduced. He is occupied, indeed pre-occupied, with defending his turf. And the attentiveness of his customers is probably reduced.

Second, such periods of public outcry are unavoidably detrimental to our liaison relationships with other Services—both immediately and in the longer run. Foreign services become reluctant to run the risk that their secrets might be publicly revealed. Moreover, in the post-Cold War environment with its broader array of problems, somewhat less subject to technical collection, this nation will be more dependent upon those liaison relationships to be well informed.

Third, and perhaps most important, with the expansion of Congressional oversight in these last twenty years has also come to the oversight committees the responsibility to nurture and support our intelligence system. Intelligence has little, if any, public constituency. If the political authorities in the Executive and the Legislature do not support intelligence, there is no one else.

2. Intelligence collection may prove over time to be less costly than it was during the Cold War. But certainly it is no easier and quite possibly it is harder. Clearly, the array of problems that attracts public attention is now far more diverse. One need only survey the

headlines of recent years to recognize the greater range of problems and regions on which we focus. Moreover, with the much lower stakes in most of these problems, there is a much lower tolerance for error. Significant casualties or other noteworthy setbacks may quickly lead to public disenchantment and the abandonment of a policy. Consequently, the requirement for accurate intelligence is thus increased.

The recent confessions of Mr. McNamara regarding how he and his colleagues misjudged the hard realities of Vietnam in the 1960's underscore this point. Mr. McNamara asserts, in effect, that the then administration misjudged the enemy's will, the determination and steadfastness of his troops (incidentally a contrast with the Gulf War against Iraq), and the support of the Vietnamese population for the other side. Moreover, though he does not acknowledge it, the failure to detect the flow of supplies through the Cambodian port of Sihanoukville meant both a misconception of the problem and a misdirection of our efforts. I dwell on this issue at some length because the intelligence challenge in the years ahead will be much more like Vietnam than the challenge of the Soviet Union and the Warsaw Pact to the West.

3. Let me try to illustrate how this more diverse set of problems will increase the challenge to intelligence in the years ahead. I shall do so in two realms: military technology and economics. In the years ahead, we must anticipate that a wider array of military technologies will be available to the several low-income, third-world nations with which we may clash. Both the knowledge of these technologies and the prospective sources of supply for them continue to expand. We must be alert to which countries have access to which technologies—and how we might counter them. Particularly is this necessary, if we are to hold down casualties to a level acceptable to the public.

Let me cite a simple example. In the Gulf War Saddam Hussein was surprised and stunned by our exploitation of the newly-developed Global Positioning System (GPS). It meant that our forces could rapidly advance in a wide swing through the desert—in a

manner that Saddam was confident would be unachievable. But today, knowledge of that GPS signal has become nigh-on universal. It will continue to be available everywhere, and we must now anticipate that potential foes will attempt to utilize those signals. In addition, commercial imagery of good quality is becoming ever more widely available—with resolution far better than we ourselves enjoyed a quarter century ago. Taken together, the GPS signal could provide navigation for cheap precision-guided munitions to a target located for that potential foe by the worldwide availability of commercial imagery.

Therefore, we will have to have nation-specific information on how others might exploit these advanced technologies. That will pose an immense challenge for intelligence—if we are effectively to counter the use by others of technologies which in the past they would not have been in a position to exploit. More broadly, the range of opportunities now available to other states to exploit modern sensors and modern electronics will pose a deep and fundamental challenge to our intelligence gathering and assessment. In this effort the Intelligence Community must enjoy the steady support of the Congress.

Let me turn for a moment to the question of economics. In recent years this nation has displayed a propensity for using economic weapons in a wide and growing range of confrontations. If we are not to be quixotic, we must be able to assess how economic sanctions might affect a nation that we seek to influence. Would the Peoples Republic of China be impressed by a threat to terminate most-favored-nation treatment? To what extent might the old regime in South Africa be influenced by economic sanctions—or a military junta in Haiti? Such questions are normally those of assessing the will on the other side; it is far more than a matter of sending "signals". If we are engaged in more than symbolism, the question is whether such sanctions will be supported by allies, by the international community? In recent years we have attempted to impose economic sanctions on North Korea, Libya, Iraq, and Iran with varying and usually limited support from allies.

In recent years, economic sanctions have become this nation's tool of choice. But the question must be whether such sanctions would be effective in achieving our stated goals. I submit that such questions are inherently so subtle and so inherently difficult that they must be analyzed by the Intelligence Community—a group detached from those policy makers, who inevitably become policy advocates. Only good intelligence—which is listened to—can be the basis of effective policy.

Mr. Chairman, I have exhausted my time. Let me close with this final observation. Of late, we have heard a great deal about restructuring. But restructuring is not the answer. At best it is only a small part of the answer. Nonetheless, in this country it is a common illusion that restructuring will save immense sums. In most cases money is saved only through curtailing operations. So I hope, Mr. Chairman, that this Committee will not be beguiled by the fascinating game of restructuring. Changing wiring diagrams will provide only modest results. Organizational charts themselves are likely to be misleading, because policy makers like to have intelligence responsive to them—and are likely to hide away assets under a different name, if the attempt at centralization of intelligence goes too far. Restructuring may be the source of endless speculation, endless discussion, and endless allure. But in the future, as in the past, the real challenge in intelligence will remain—the astute definition and careful analysis of the substantive problem.

Thank you, Mr. Chairman. Later I shall be pleased to respond to any questions that you and other members of the committee may have.

The CHAIRMAN. Mr. Colby.

STATEMENT OF THE HONORABLE WILLIAM E. COLBY

Mr. COLBY. Mr. Chairman, thank you for inviting me to join this distinguished group of my predecessors and successors. We are delighted to contribute what we can to this review by the Committee and of our Nation.

There is a syllogism loose in the world today which says that the CIA was a Cold War instrument. The Cold War is over, and therefore, we don't need CIA anymore. Like most syllogisms, it is simple, clear and wrong, and I think that that is an important point.

Will there be a possibility of reducing our expenditures on intelligence in the post-Cold War world? Yes, I think so. The most expensive parts of our intelligence system are the high technology systems which were developed to guard against the breakout by the Red Army in the plains of northern Germany. A second expensive element of our intelligence effort are the large military staffs which will obviously be reduced as we reduce our military; and thirdly, we obviously are not going to be called upon to fight a covert war, such as the Afghan war, which was a great success, but was very expensive.

I think that if you look at this, then, you have to face up to the proposal that a distinguished legislator, Senator Moynihan came up with, of dividing up the CIA and sending it back. I ran into him one day and I said, Senator, don't do that. We did that after World War I, and then we found we were wrong. We did it again after World War II, and we found very quickly that we were wrong. Let's not do that.

So let's look at what reasonable reductions may be possible in this new world, what retargeting will be essential in this new world to meet the kinds of new problems that Ambassador Helms, Mr. Schlesinger suggest; but let's also look at what we have created over these past 50 years with our intelligence system.

Let's start by thinking of this huge analytical capability that has been built up of wise thinkers and procedures for analysis, for centralizing information, all the information, and see how this can be adapted to the new world—and maybe not just the questions of security, Mr. Chairman.

There are other kinds of problems our Nation faces that could use the services of wise analytical staffs, and there may be ways by which we could structure a relationship between such organizations as our intelligence analytical system and the Congressional Research Service, the National Academy of Sciences, the Office of Technology Assessment, things of this nature, to look more broadly at the problems our country faces. In other words, much of this could be done on a nonsecret basis and a nonsecurity basis. But that is worthy of some concern.

I am not just trying to save the jobs of the people, I hasten to say; I am saying we have an asset, and before we throw it away, let's look at it to see how it can be reshaped to make—to be made more profitable, more useful for our country.

The high technology obviously has been a major accomplishment of our country. The kinds of information it has provided through the satellite photography, the huge electronic vacuum cleaner that

suctions out the signals throughout the world, the use of seismology, acoustics, all of these things, which we did for military purposes and for good reason.

But just as the NASA is talking about a Mission to Planet Earth, maybe there are applications of this huge investment in technology that can also be applied to some of the problems that our Nation faces in the future of environmental planning, agricultural planning, decertification, all of these things—that we can learn to apply some of this technology to help us to meet these kinds of problems through technology.

On the third real revolution that American intelligence produced, the idea that American intelligence would operate under our Constitution and under our law, rather than outside it, I really don't think there is much to add, because I think the committees of the Congress do their function today. I maintain that that has been a strength for our Intelligence Community. We have had a few arguments over time, but in general I think both sides have profited by it. And I am going to the second meeting in Eastern Europe with representatives of the Eastern European services shortly to reassure them that parliamentary control is a plus for intelligence, not a negative. But we also have developed a new kind of approach that we need.

We have certain terrorist organizations, things of this nature that we have to penetrate in the old way. I think we have to be imaginative, however, in thinking of the kind of fire brigade that we need to maintain, capable of moving out to a terrible situation in a hurry, and being equipped with language above all things, cultural knowledge, all of these things.

Bill Donovan, the first of our number at this table, used to say that the hyphenated American was a great strength in America, not a weakness, because it gave us a sense of cultural identity with every place in the world. And I think this is something we can apply as we look forward to this fire brigade concept that we will need to develop. We need to develop some assets that will carry us through if times become negative in certain areas, that now are quite open and available to the ordinary press, the ordinary attaches to go look at.

But over this last year, we have also developed a concept, a function for intelligence, which always used to be to gain an advantage over someone else. And I think more and more intelligence is being used to lay a state of facts down upon which we can sensibly negotiate. This began with the arms control area where we discovered that if intelligence could verify, then we could make agreements to reduce weapons.

I think, similarly, we have to look at ways in which our intelligence can be used to help us resolve some of the problems around the world and not just give us advantages.

Are there ways in which our intelligence can be made more useful to our public? Not perhaps by publishing intelligence reports, which both Admiral Turner and I experimented with and found didn't work very well, but rather to turn them over to the other parts of the government to be shared with our people so that they would understand it.

Economic intelligence is going to be a major area. Are there ways in which our Intelligence Community can assist in outlining the reality of economic opportunities and threats ahead? These are all a variation of the old security-related intelligence. They reflect the fact that intelligence is facing a new post-Cold War world, and that it cannot really be justified just by saying that the Cold War is really still with us or can come back.

We have got to think of more practical contributions that intelligence can make to our decisionmaking in the future. And if I may take on a phrase attributed to our medical profession, I think one thing we should count on when we approach what to do with this huge intelligence establishment is above all, do no harm.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Colby.

[The statement of Mr. Colby follows:]

REINVENTING AMERICAN INTELLIGENCE

William E. Colby

American intelligence is once again under scrutiny. The Ames case, its actions in Guatemala and its estimates of the strength of the Soviet bloc are all generating charges of failure - or worse - which require investigation and correction. A Presidential Commission, the Senate Select Committee and the House Committee, and an undetermined number of study groups, are all launched on a review of American intelligence, to correct its faults and to reorient it to the new world ahead. In addition, a new Director is assuming the leadership of the community, with an obvious charge to shake it vigorously and reshape it for the future.

But more is required than to correct its faults and failures. The end of the Cold War has changed the whole framework for its activities. That War was the central focus of its function over the past forty years, from its concern with the hostile forces behind the "curtains" erected between East and West to its worldwide contest to contain the outward expansion of Communist power.

Indeed, one prominent and respected critic of intelligence draws from this fact the thought that the Central Intelligence Agency should simply be abolished as its mission is over, spreading some of its remaining functions between the State and Defense Departments. When I met with Senator Daniel P. Moynihan, I pointed out that we had done that after World War I and World War II, only to discover later that we had to rebuild intelligence for new crises - Why do that again?

Clearly, however, the end of the Cold War does require a major rethinking of the missions, functions and budgets of American intelligence. And they can be substantially reduced. The really expensive parts of our intelligence system today are in the high technology and staffs of its satellites and electronics, the military staffs of the commands and forces around the world and any major covert paramilitary operations which may be undertaken. The intense need for the first to determine indications of possible superpower attack is certainly less - not eliminated - with the disappearance of the major threat the Soviet Union and its Red Army posed for so many years. The second will clearly be reduced as our force levels are reduced. And no apparent challenge such as the successful Afghan resistance to Soviet power appears to call for American covert intervention.

But before mechanically subtracting from the present structure of intelligence, it is essential to look carefully at what the United States has created of it over the years.

Essentially, we have conducted four major revolutions in the very discipline of intelligence and the result is far different than it was at the dawn of World War II. A national asset should not be discarded in the gesture of a moment.

The first revolution was the result of the personality of the man Franklin Roosevelt chose to form an intelligence service for that war, out of almost nothing. William J. Donovan was a

certified hero of World War I, with the Medal of Honor and the

Distinguished Service Cross won on the battlefields of France. He was thus a highly appropriate choice to lead the spies, saboteurs and guerrillas which the Office of Strategic Services was created to place behind enemy lines throughout the world.

But Donovan was also a student, a voracious reader, avid traveller and intellectually as intense as he was physically. So one of his early acts was to assemble a corps of scholars, with instructions to assemble all relevant information, not merely the

secrets, and out of their analysis provide judgements as to the real meaning of the bits and pieces of information before them - to search out our libraries, our geographic societies, our universities and our industries with worldwide links. This was the concept of central intelligence, and was a revolution from the small espionage services at the knee of a king which had constituted intelligence before him.

This structure has grown and matured over the years since, so that the analytical capabilities of our intelligence system are now sophisticated and experienced. Yes, they concentrated on the security problems posed by the Cold War. But when these are now lesser, the question should not be how quickly they can be discarded. Rather the question should be how the talents and techniques developed for security purposes might be reoriented to help analyze and assess some of the other serious problems our nation faces in the world ahead, in economics, science, cultural conflicts and social relationships.

These are not traditional "intelligence" subjects, nor should we try to expand traditional intelligence techniques and institutions to cover them. But perhaps some reorganization and renaming could preserve their talents and produce a National Academy of Analysis, with close links to the National Academy of Sciences, the Congressional Research Service and the Office of Technology Assessment, or some alternative structure which could improve the bases for our policy dialogues on these subjects. Most would require no secrecy in view of the prevalence of information at large in the data and reporting services which are part of today's information revolution. Meanwhile a vestige could be left to conduct the traditional national security analysis, and let it keep the identity of "intelligence"

The second revolution in intelligence conducted by the U.S. was in technology. This grew from our inability to learn what we needed through spies from the tightly controlled totalitarian societies of the Cold War. The U-2 and successors, the satellite

photography, the huge electronic vacuum cleaner searching out every form of signal in the radio spectrum, the sensitive acoustic devices on land and sea all transformed the world of intelligence from its origins. We could count things, precisely measure them and track the spoor of weapons production, transport and installation to a degree that spies could not have reliably informed us in past ages.

This huge apparatus also has capabilities for the world beyond the Cold War. We are seeing a beginning in the contribution of some of its offshoots such as the coverage of the SPOT satellite, the environmental lessons from older systems being released, and the use of "intelligence reports" in diplomacy with allies, and sometimes adversaries, as well as public opinion when the reports are persuasive. The question we need to consider is whether substantial parts of these technological processes might be freed from the "intelligence" discipline in which they grew during the Cold War to become "information" instead, with its sources considered part of the transparency which technological advances have made a natural part of modern life.

This is not an easy subject, as there will be technologies which will not work if the subjects are aware that they are being targeted, but in many situations there is little that can be done to conceal, and the openness is good in itself. Careful study could come up with many ways in which at least some of the formerly secret intelligence technology could be opened up or licensed for approved uses to benefit overall knowledge, and perhaps managed by a non-intelligence Information Technology Agency. One complexity would be whether it should or could be moved to non-military budgets, as well, or whether the Congress and the public would not support it if it did.

Another limitation on proceeding too far in this direction is the nature of electronic interceptions, and especially how to handle material which results from decryption. Obviously access would stop if interception were to become known, especially

decryption, but law enforcement in many situations benefits from its subjects ignoring their known vulnerability to wire taps and going on talking. Perhaps some analogies could be found here that the techniques could be known and used under proper authority while

particular applications remain secret. Or sometimes attribution to other sources can be stated, so that the vulnerability remains even though the substance of the information becomes widely known.

The third revolution conducted in the U.S. was the

determination that American intelligence can and will be conducted under American law and our Constitutional processes. This was a novel concept, as the illegality of espionage and yet the

determination that nations use it for their security, implied for centuries that law and intelligence were different subjects. But the advent of the Congressional Committees on Intelligence have

brought our operations, even our most secret ones, under the

constitutional separation of powers. Despite occasional

outbursts, the system works, and is being copied in other nations.

What this means is that American espionage and covert actions can remain in our national arsenal for use against those who would be our enemies - terrorists, secret proliferators of mass

destruction weapons, advocates of regional ethnic or religious

hatreds, crime and drug lords, etc. This activity will also be

reduced and retargeted with the end of the Cold War as many of our former target nations become open to the free flow of information.

But our intelligence service must continue to develop - and protect

- sources and friends in areas of likely hostility, and provide a fire brigade capability in areas which do not call for constant

operations.

The fourth revolution has been in the very function of

intelligence. Traditionally it was to gain power over an

adversary, to know something about him he did not know you knew.

In recent years, especially with the arms control process, it has been to provide solid information about subjects under dispute or negotiation so that solutions can be reached to the differences

which exist. This explains the growth of mutual inspections and

other forms of transparency which have supplemented and sometimes fully replaced the need for intrusive intelligence operations. We are slowly learning to replace ignorance, suspicion and fear with knowledge and confidence.

This is also where the public use of "intelligence" to reassure our peoples - or to alert them when necessary - differs from the traditional spy who steals the secret and gives it to the general so that he can win the battle. The function in the post Cold War world is inherently different, providing information and analysis for wise decisions, rather than momentary advantage over an adversary.

With this kind of full awareness of what America has developed in its intelligence discipline, the process of determining its missions, its character and its organizations for the new world can begin. Many options are before us, and many differences will arise as to the precise changes which should be made. But a phrase from the medical profession is perhaps most apt: "Above all, do no harm" to the institution we built and which helped take us through the long Cold War.

Mr. Colby, Counsel to Donovan Leisure Newton & Irvine and Editor of the Colby Report for International Business, was Director of Central Intelligence 1973-1976

The CHAIRMAN. Admiral Turner.

STATEMENT OF ADM. STANSFIELD TURNER, U.S. NAVY

Admiral TURNER. Mr. Chairman, thank you for having me with you. Thank you for undertaking this study.

I would like to suggest three issues I hope the Committee will consider in its deliberations: How better to focus the activities of the Intelligence Community in the post-Cold War era, how to bring the Directorate of Operations of the CIA under control, and what the role of the DCI should be.

With regard to focusing our intelligence activities, as has been brought out already very clearly today, we are involved in more countries in the world today than perhaps ever before. Activities in other countries can influence what we do more than perhaps ever before. The Mexican peso drops and we find \$5 billion. The Russians make a commercial deal to sell a nuclear power reactor to the Iranians, and we are understandably extremely concerned.

Today I believe we must be careful that we do not neglect any of the countries of the world, because we have not been good in the past at predicting where the next problems and crises would arise. If you look back a decade, how many Americans would ever have imagined that we would deploy forces in combat in places like Grenada, Somalia and Haiti? How many Americans would think we might have thought about employing forces in Bosnia and sending major relief efforts to a place called Rwanda. People didn't even know of most of these situations or countries.

I believe the CIA should be opening Directorate of Operations stations around the world rather than closing them, as I read in the newspapers they are doing. I believe that the analytical branches of our Intelligence Community should, between them, be sure there is some coverage of almost every country of the world—maybe a few exceptions to that, but in general, we must have analysts on tap who understand the culture and the language of every country so that if a crisis arises, we have an expert on hand.

Now, what we need to know in these various countries of the world is shifting away from what has been the traditional function of espionage—finding secret plans, military orders of battle, characteristics of military weapons; much more to the cultures, the attitudes, the trends, the prospects for stability in these countries. Much of this is open information, but you have to listen, and we have not, as a country, a good record at listening to what is going on in other countries. And some of the listening for even open information must be done clandestinely.

You don't go into a country with a very authoritarian government as a member of the U.S. Government, as a member of the embassy, and sit down in a coffee house with the leader of the opposition and find out what he thinks the prospects for the continuation of that regime are likely to be. So the clandestine service of the CIA needs to be retooled.

We still, of course, will need some traditional spying and engaging of agents in the few countries we consider hostile to us and where we don't worry about risking the embarrassment of being caught. And we will do espionage in a few friendly countries. We will do it more judiciously, but where we feel the payoff is worth

the risks. But the measures of success of the Directorate of Operations must move away from the numbers of reports and the numbers of recruitments to the insightfulness of the reporting on the countries to which they are assigned.

Finally, in regard to focusing, I would like to suggest that the CIA and its analytic branch must be capable of covering the full spectrum of intelligence. Farming out military intelligence to the Pentagon or political intelligence to the State Department is a loser, in my opinion. You need the CIA in each of those areas, and economic intelligence as well, in order to check the inherent parochial limits of the other intelligence agencies, and also in order to integrate economic, political and military intelligence. You cannot understand any country in the world today unless you can bring an understanding of all three of those areas together.

Secondly, with respect to the Directorate of Operations, it simply must be brought under control. First, I would suggest that there needs to be improvement in the oversight process, which I strongly support, but that is your territory and you know better how to do that than I. Secondly, though, I would, with all deference to Jim Schlesinger, say that some tinkering with the organization is necessary here. I would separate the Directorate of Operations from the rest of the CIA, make them two separate organizations. The DO has an entirely different culture, and it needs closer control. But more than that, it needs to be placed under one individual, a Director of Collection, who supervises all forms of intelligence collection—the NSA, the NRO, and the DO—because they must work as a team. I think it is important that it be made clear to the DO that they are part of a team, not an independent activity.

Thirdly, as to the role of the DCI, again, I would suggest a reorganization. I strongly support the creation of a separate DCI from head of the CIA. It is more of a job than one person can undertake, and in the years since the law was first passed in 1947, the need for a coordinating person over the entire Intelligence Community has increased manyfold. The budget has increased, the number of expensive technical systems, and you can't have one for each agency, has increased; and therefore, you need somebody to bring it all together. And on top of that, it is a conflict of interest for the head of the CIA to be a man or woman who is responsible for coordinating the CIA and other agencies.

Finally, I would suggest with respect to the role of the DCI that we have an anomaly today. Military intelligence is declining in importance to our nation, but the control of the Department of Defense over the intelligence apparatus has increased substantially in the last dozen years or so.

Now, let me acknowledge very much that the cooperation, as I understand it, is very good between the Intelligence Community and the Department of Defense today. But the question is, if in the future differences arise as to where we should spend our money, where we should target our assets, what kinds of things we should be concentrating on in the intelligence world, who is going to make that decision? I believe that such decisions, because they are national decisions, can only be made by the Director of Central Intelligence, He/she should therefore be given control of the NSA, the

NRO, and be the recipient of the monies which you authorize and appropriate for the national intelligence activities.

These, Mr. Chairman, are my suggestions, and I appreciate the opportunity to put them before you.

The CHAIRMAN. Thank you very much, Admiral Turner. Judge Webster.

STATEMENT OF THE HONORABLE WILLIAM H. WEBSTER

Judge WEBSTER. Mr. Chairman, I too want to express my appreciation for the opportunity to be here with so many of my colleagues and former DCIs. As you can see, we are not monolithic. We do not always agree, but I think that when there is clear agreement, as there is in much of what I have heard today, that our collective experience and collective judgment may be worth hearing.

We have been coming through some very turbulent times in the Intelligence Community. And I want to start by saluting this Committee for resisting the temptation to rush to quick judgments and quick fixes, and for its decision to look thoughtfully into the future to determine how the Intelligence Community can best perform its historic mission in the 21st century.

Although sometimes couched in different terms with different targets, the historic purpose of Central Intelligence from its inception has been to further the vital national security interests of our country. At the time that the Central Intelligence Agency was founded, following the end of World War II, its underlying objective was to make certain that the United States would never be victimized by another Pearl Harbor. Just as every President from George Washington forward has looked into intelligence-gathering as a means of anticipating problems of vital interest to our national security, both in war and in peace, modern Presidents have turned to the analytical capabilities of the Central Intelligence Agency to provide independent, objective analysis which would be useful in making critical policy decisions.

The Director of Central Intelligence is also charged with leading the several intelligence components from other agencies in a collective community effort to enhance and coordinate the acquisition and analysis of intelligence through what is known as the Intelligence Community.

In all of this, the principal targets have been those which are believed to have the greatest primary or secondary impact upon the national security interests of the country as identified in presidential directives. Thus, in the Cold War period, our primary focus was upon the Soviet Union. There was great concern as Jim Schlesinger and Bill Colby pointed out that the Soviet Union was planning to launch in some surprise fashion an attack upon the NATO forces in Europe and potentially a nuclear attack upon the United States. For field commanders in NATO, significantly outmanned by opposing Soviet ground forces, warnings of war, especially of a surprise standup breakout offensive, were crucial. Both the human and national technical collection capabilities of our country were largely marshaled in this direction.

We sought to determine not only the intentions of our Soviet adversary, but also Soviet capabilities in terms of changing military weaponry and antimissile defense systems. Then as the Soviets

sought to expand their spheres of influence into Third World countries, intelligence resources were deployed to identify and resist these undertakings including in some cases paramilitary covert action or surrogate warfare.

In subsequent years, as Gorbachev sought to salvage his collapsing economy by relieving his military burden through detente, the Intelligence Community was called upon to assess the purpose and sincerity of these unilateral moves and to keep the policymakers fully informed as presidents moved more and more to meet the Soviet Union in nuclear disarmament and other confidence building developments.

While this process was taking place in the last decade and a half of the 20th century, the United States undertook a number of different but related military actions, particularly against autocratic leaders whose acts of aggrandizement were creating instability of a nature that affected our vital national security interests. The most notable of these was the Gulf War. Key intelligence support was required on each of these occasions. When the Soviet Union imploded, the Intelligence Community found itself with 15 separate republics, all unstable for various reasons, and a U.S. Government with an urgent and healthy appetite for current and useful intelligence about each of these new republics.

Mr. Chairman, I have touched upon key changes taking place over the last 50 years, but I have by no means identified all the demands being made upon our Intelligence Community. Still, the essential mission, as you pointed out, remains the same: To provide prompt and useful intelligence so that our policymakers can make wise decisions in the interests of our country.

Today we look out on a world substantially different from the world that existed a half century ago at the time that the Central Intelligence Agency was founded. The key to the success of the CIA and the larger Intelligence Community, and occasionally its failure, has been our ability to identify clearly and accurately the important threats to our national security and to do so in time for policymakers to plan an effective response or prevent harm from occurring.

Mr. Chairman, I think it is interesting that those national security issues and intelligence priorities which were identified during our strategic planning in 1990 and 1991 when I was on board have remained essentially valid through the tenures of Acting DCI Richard Kerr, DCI Robert Gates, DCI James Woolsey and were likewise recently advanced during his Senate confirmation proceedings by the current DCI John Deutch.

All of us concluded that for the foreseeable future the principal national security interests requiring the priority attention of the Intelligence Community are, first, regional disputes, often of ethnic or nationalistic origin which threaten the stability of regions of vital interest to the United States; second, the increasing danger of proliferation of weapons of mass instruction—nuclear, biological, and chemical—especially in Third World countries; third, major transnational issues, including terrorism and drugs.

In addition, all DCIs during this period in one form or another have identified the problems of economic competitiveness and the importance of increasing our capacity to understand how these

forces produce political instability and danger and how to take appropriate corrective action to defend against industrial espionage and technology transfer by the hostile intelligence services.

These issues are in many respects substantially different from the national security issues that existed at the time the CIA was founded and the various intelligence components of other agencies began to function as an Intelligence Community.

To succeed in moving aggressively and effectively in these vital areas but in an age of declining resources will require enormous dedication, leadership, cooperation, and the understanding, trust, and support of congressional oversight committees. To be given the tools there must be clear accountability and a track record for credibility. While the Intelligence Community is accountable both to the President and to the Congress, its analytical reporting must reflect the finest in collective efforts and the most objective conclusions possible, without spinning or shaping to support any policymaker's political or foreign policy agenda.

Time does not permit me to outline in any serious depth all of the steps that I think are critical to the success of the intelligence mission in the 21st century. I will list a few, and there are others, and I will welcome the opportunity to respond in greater detail to your questions.

First, the DCI, with whatever community staffing may be available to him, must have primary authority to create and lead a true Intelligence Community. The DCI today can lead by consensus building but lacks in many respects the attributes of a chief executive officer in carrying out his responsibilities. The performance evaluations of the other members of the community are prepared inside their respective agencies with no real input from the DCI. The DCI has some budgetary controls and responsibilities but these alone cannot command a uniform effort. The DCI needs greater authority in dealing with the selection and retention of the leaders of the Intelligence Community as well as a more clearly defined authority to carry out his responsibility. I personally am not persuaded that the creation of a director of national intelligence would advance these objectives. Rather it would provide a new leader with few authorities and no troops at all. If the drug czar is the model, I am clearly opposed to it.

Second, I think it is important for the DCI to bring home to the congressional committees the importance of planning, authorizing, and funding new initiatives to meet changing goals. Many of the satellites designed to perform tasking against the Soviet target are over age and incapable of effective reprogramming to new and different taskings. If we assume that the average satellite requires five years to construct, we must build into our planning and start the construction process well before the gap occurs. We should have sufficient reserves to deal with the unexpected collapse of one or more of our technical assets.

In a similar vein, it must be recognized that human assets are not fungible, are not inventory on a shelf to be taken out and deployed on new assignments on short notice. They take years to develop, years to get in place, and no one should be under the illusion that we can sharply curtail our human collection until such time as we feel more seriously threatened.

To the extent that we have all agreed upon the appropriate taskings, we should get an early run on putting our assets in place and using them. For example, at the conclusion of the Gulf War the military commanders expressed an urgent need for more synoptic battlefield coverage. We should not wait until the next regional conflict before undertaking to meet these newly identified requirements.

Third, the Intelligence Community offers a wide range of analytical effort and capabilities in serving a wide range of consumers at different levels of government. If generalizations are possible, and most are suspect, I think it would not be unfair to say that most senior policymakers are more interested in and hence more likely to read what is commonly called current intelligence as distinguished from longer range estimates. We must be understanding of this fact of life in providing intelligence to senior policymakers while at the same time making certain that their subordinate advisors are more fully conversant with longer range issues that may ripen into current problems.

It is vitally important that the policymaker understand and believe that intelligent products are intended to advance understanding and not serve as an internal policy agenda. From time to time the messenger's information is unwelcome because it does not support the policymaker's perception of a position the United States is taking or ought to take. The expression "this is not helpful" comes to mind because among other things the congressional committees will also have access to these intelligence products. There may be some suspicion by policymakers that the Intelligence Community has somehow preempted the policymaker's flexibility.

The Intelligence Community will be called upon from time to time to demonstrate its objectivity. If the members of the Community have committed themselves to the four Cs of reporting, (testimony must be correct, candid, consistent and complete) the Intelligence Community will be much better able to chart its course between Scylla and Charybdis.

Finally, I would like to address one particular area of a Community cooperation and coordination which is deserving of special thought and watchfulness by this Committee. This concerns the relationship between the members of the Intelligence Community primarily concerned with positive collection and the Federal Bureau of Investigation with its expanding role in counterintelligence and law enforcement efforts abroad. In the past, turf issues have largely been resolved on the basis of whether the work is international or domestic. In the United States, the FBI has clear lead responsibility for all counterintelligence. Any work in the United States on such issues must be coordinated with the FBI.

The reverse has largely been the case with respect to counterintelligence issues occurring abroad, with CIA generally having coordinating responsibility. Each department within the national security community has some counterintelligence capabilities and in the United States has sought often to identify its own problems first without notification to the FBI. We sought to correct this in 1987 following the unsatisfactory performances by both agencies in the Edward Lee Howard case. In the wake of the Ames case, new structural changes have been made at congressional insistence

which assign responsibility and underscore the importance placed upon this effort by the Congress.

The international scene is much less certain. Liaison relationships between the FBI and law enforcement officials abroad and between CIA and foreign intelligence officials abroad are becoming more confused as international criminal activity occupies an increasingly larger role of the FBI agenda. It is time to consider what the respective responsibilities should be abroad, what mechanism should be in place to prevent confusion and conflict, and how best to make these two great organizations function more successfully and harmoniously in these as yet uncharted waters.

Mr. Chairman, I realize that I am over my time. I am about to conclude, but I want to conclude with something I feel very deeply. I know that you know the important contributions that the Intelligence Community has provided and will be required to provide in the future. The men and women who serve within the Intelligence Community must be extraordinarily able, innovative, flexible, and highly dedicated to their calling. If we are not able to attract men and women of the highest character and integrity, no organizational changes, no structural refinements, and no zeal for rule-making will guarantee the success of the endeavor.

While we are not currently engaged in a shooting war, we are clearly charting the ship of state through very dangerous and uncertain waters. Our leaders need the very best eyes and ears that the Intelligence Community can provide. As we look out upon the 21st century, it is no mere hyperbole to remind ourselves as did Sir William Stephenson, the "Man Called Intrepid" so many years ago, that in the integrity, character, and wisdom of those to whom the Intelligence Community responsibility is entrusted, lies the hope of free people to endure and prevail.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much, Judge Webster.

[The statement of Judge Webster follows:]

U.S. House of Representatives
Permanent Select Committee on Intelligence

Testimony of William H. Webster

May 22, 1995

I am pleased to have this opportunity to participate in this hearing and to present a few of my views in connection with your project, **IC21: The Intelligence Community in the 21st Century**. I intend that this statement shall be brief, but will welcome the opportunity to respond to any of your questions.

General Vernon Walters, our distinguished former Ambassador to the United Nations and to the Republic of Germany and also a former Deputy Director of Central Intelligence, used to say that the American people had a certain ambivalence about intelligence: when they feel threatened, they want a whole lot of intelligence, and when they do not feel threatened, they view the whole process as somehow a bit immoral. We have been coming through some very turbulent times in the intelligence community. I salute this Committee for resisting the temptation to rush to quick judgments and quick fixes and for its decision to look thoughtfully into the future to determine how the intelligence community can best perform its historic mission in the 21st Century.

Although sometimes couched in different terms, with different targets, the historic purpose of central intelligence from its inception has been to further the vital national security interests of our country. At the time the Central Intelligence Agency was founded, following the end of World War II, its underlying objective was to make certain that the United States would never be victimized by another Pearl Harbor. Just as every president from George

Washington forward has looked to intelligence gathering as a means of anticipating problems of vital interest to our national security, both in war and in peace, modern presidents have turned to the analytical capabilities of the Central Intelligence Agency to provide independent objective analysis which would be useful in making critical policy decisions. The Director of Central Intelligence is also charged with leading the several intelligence components from other agencies in a collective community effort to enhance and coordinate the acquisition and analysis of intelligence through what is known as the Intelligence Community.

In all of this, the principal targets have been those which are believed to have the greatest primary or secondary impact upon the national security interests of this country as identified in presidential directives. Thus, in the Cold War period, our primary focus was upon the Soviet Union. There was great concern that the Soviet Union was planning to launch, in some surprise fashion, an attack upon the NATO forces in Europe and potentially a nuclear attack upon the United States. For field commanders in NATO, significantly out-manned by opposing Soviet ground forces, warnings of war, especially a surprise standup breakout offensive, were crucial. Both the human and national technical collection capabilities of our country were largely

marshalled in this direction. We sought to determine not only the intentions of our Soviet adversary, but also Soviet capabilities in terms of changing military weaponry and anti-missile defense systems. As the Soviets sought to expand their spheres of influence into third world countries, intelligence resources were deployed to identify and resist these undertakings including, in some cases, paramilitary covert action or surrogate warfare. In subsequent years, as Gorbachev sought to salvage his collapsing economy by relieving the military burden through detente, the Intelligence Community was called upon to assess the purpose and sincerity of these unilateral moves and to keep the policymakers fully informed as presidents moved more and more to meet the Soviet Union in nuclear disarmament and other confidence-building developments.

While this process was taking place in the last decade and a half of the 20th Century, the United States undertook a number of different but related military actions, particularly against autocratic leaders whose acts of aggrandizement were creating instability of a nature that affected our vital national security interests. The most notable of these was the Gulf War. Key intelligence support was required on each of these occasions. When the Soviet Union imploded, the Intelligence Community found itself with 15 separate

Russian republics, all unstable for various reasons, and a U.S. government with an urgent and healthy appetite for current and useful intelligence about each of these new republics.

Mr. Chairman, I have touched upon key changes taking place over the last 50 years, but I have by no means identified all the demands being made upon our Intelligence Community. Still, the essential mission remains the same: to provide prompt and useful intelligence so that our policymakers can make wise decisions in the interests of our country.

Today we look out on a world substantially different than the world that existed a half century ago at the time the Central Intelligence Agency was founded. The key to the success of the CIA and the larger Intelligence Community, and occasionally its failure, has been our ability to identify clearly and accurately the important threats to our national security and to do so in time for policymakers to plan an effective response or prevent harm from occurring.

Mr. Chairman, I think it is interesting that those national security issues and intelligence priorities which were identified during our strategic planning in 1990 and 1991 have remained essentially valid through the tenures of Acting DCI Richard Kerr, DCI Robert Gates, DCI James Woolsey and were likewise recently advanced during his Senate confirmation proceedings by the

current DCI John Deutch. All of us concluded that for the foreseeable future, the principal national security interests requiring the priority attention of the Intelligence Community are:

- (1) Regional disputes, often of ethnic or nationalistic origin, which threaten the stability of regions of vital interest to the United States.
- (2) The increasing danger of proliferation of weapons of mass destruction, nuclear, biological and chemical, especially in the third world countries.
- (3) Major transnational issues, including terrorism and drugs.

In addition, all DCI's during this period, in one form or another, have identified the problems of economic competitiveness and the important of increasing our capacity to understand how these forces produce political instability and danger, and how to take appropriate corrective action to defend against industrial espionage and technology transfer by hostile intelligence services.

These issues are in many respects substantially different from the national security issues that existed at the time CIA was founded and the various intelligence components of other agencies began to function as an Intelligence Community. To succeed in moving aggressively and effectively in

these areas of vital interest to our national security, but in an age of declining resources, will require enormous dedication, leadership, cooperation and the understanding, trust and support of Congressional oversight committees. To be given the tools there must be clear accountability and a track record for credibility. While the Intelligence Community is accountable both to the President and to the Congress, its analytical reporting must reflect the finest in collection efforts and the most objective conclusions possible, without spinning or shaping to support any policymaker's political or foreign policy agenda.

Time does not permit me to outline in any serious depth all of the steps that I think are critical to the success of the intelligence mission in the 21st Century. I will list a few, and there are others, and I will welcome the opportunity to respond in greater detail to your questions.

1. The DCI, with whatever community staffing may be available to him, must have the primary authority to create and lead a true Intelligence Community. The DCI today can lead by consensus-building, but lacks in many respects the attributes of a chief executive officer in carrying out his responsibilities. The performance evaluations of the other members of the community are prepared inside their respective agencies with no real input from the DCI. The DCI has some budgetary controls and responsibilities, but these

alone cannot command a uniform effort. The DCI needs greater authority in dealing with the selection and retention of the leaders of the Intelligence Community as well as more clearly defined authorities to carry out his responsibilities. I am not persuaded that the creation of a Director of National Intelligence would advance these objectives. Rather it would provide a new leader with very few authorities and no troops at all.

2. I think it is important for the DCI to bring home to the Congressional committees the importance of planning, authorizing and funding new initiatives to meet changing goals. Many of the satellites designed to perform tasking against the Soviet target are over age and incapable of effective reprogramming to new and different taskings. If we assume that the average satellite requires five years to construct, we must build this into our planning and start the construction process well before the gap occurs. We should have sufficient reserves to deal with the unexpected collapse of one or more of our technical assets. In a similar vein, it must be recognized that human assets are not fungible, are not inventory on a shelf to be taken out and deployed on new assignments on short notice. They take years to develop, years to get in place and no one should be under the illusion that we can sharply curtail our human collection until such time as we feel more seriously threatened. To the extent

we have all agreed upon the appropriate taskings, we should get an early run on putting our assets in place and using them. For example, at the conclusion of the Gulf War, the military commanders expressed an urgent need for more synoptic (battlefield) coverage. We should not wait until the next regional conflict before undertaking to meet these newly identified requirements.

3. The Intelligence Community offers a wide range of analytical effort and capabilities in serving a wide range of consumers at different levels of government. If generalizations are possible, and most are suspect, I think it would not be unfair to say that most senior policymakers are more interested in, and hence more likely to read what is commonly referred to as, "current intelligence" as distinguished from longer range estimates. We must be understanding of this fact of life in providing intelligence to senior policymakers, while at the same time making certain that their subordinate advisors are more fully conversant with longer range issues that may ripen into current problems.

It is vitally important that the policymaker understand and believe that intelligent products are intended to advance understanding and not serve an internal intelligence policy agenda. From time to time the messenger's information is unwelcome because it does not support the policymaker's

perception of a position the United States is taking or ought to take. The expression "this is not helpful" comes to mind, because the Congressional committees will have access to intelligence products. There may be some suspicion upon policymakers that the Intelligence Community has somehow preempted the policymaker's flexibility. The Intelligence Community will be called upon from time to time to demonstrate its objectivity. If the members of the community have committed themselves to the four "C's" of reporting (testimony must be correct, candid, consistent and complete), the Intelligence Community will be much better able to chart their course between Scylla and Charybdis.

4. Finally, I should like to address my remarks to one particular area of community cooperation and coordination which is deserving of special thought and watchfulness by this Committee. This concerns the relationship between the members of the Intelligence Community primarily concerned with positive collection and the Federal Bureau of Investigation with its expanding role in counterintelligence and law enforcement efforts abroad. In the past, turf issues have largely been resolved on the basis of whether the work is international or domestic. In the United States, the FBI has clear lead responsibility for all counterintelligence. Any work in the United States on

such issues must be coordinated with the FBI. The reverse has largely been the case with respect to counterintelligence issues occurring abroad with CIA generally having coordinating responsibility. Each department within the national security community has some counterintelligence capability and in the United States has often sought to identify its own problems without early notification to the FBI. We sought to correct this in 1987 following the unsatisfactory performances by both agencies in the Edward Lee Howard case. In the wake of the Ames case, new structural changes have been made as Congressional insistence which assign responsibility and underscore the importance placed upon this effort by the Congress.

The international scene is much less certain. Liaison relationships both between the FBI and law enforcement officials abroad and CIA and foreign intelligence officials abroad are becoming more confused as international criminal activity occupies an increasingly larger role in the FBI agenda. It is time to consider what the respective responsibilities should be abroad, what mechanism should be in place to prevent confusion and conflict and how best to make these two great organizations function more successfully and harmoniously in these as yet uncharted waters.

Mr. Chairman, the members of this Committee know as well as I the important contributions that the Intelligence Community has provided and will be required to provide in the future. The men and women who serve within the Intelligence Community must be extraordinarily able, innovative, flexible and highly dedicated to their calling. If we are not able to attract men and women of highest character and integrity, no organizational changes, no structural refinements and no zeal for rulemaking will guaranty the success of the endeavor. While we are not currently engaged in a shooting war, we are clearly charting the ship of state through very dangerous and uncertain waters. Our leaders need the very best eyes and ears that the Intelligence Community can provide. As we look out upon the 21st Century, it is no mere hyperbola to remind ourselves as did Sir William Stephenson, the "Man Called Intrepid" so many years ago, that in the integrity, character and wisdom of those to whom the intelligence responsibility is entrusted, lies the hope of free people to endure and prevail.

The CHAIRMAN. Mr. Woolsey.

STATEMENT OF R. JAMES WOOLSEY

Mr. WOOLSEY. Thank you, Mr. Chairman. In view of the fact that we are after three o'clock I will—I would propose that I would—enter my statement in the record and that I take just a few minutes to talk to it rather than to read it, if that is acceptable to the Committee.

It is, of course, an honor and pleasure as always to appear here. Let me turn immediately to what I think is one of the central questions which has produced a good deal of confusion and uncertainty with respect to intelligence organization, cost, coping with the aftermath of the Cold War, and related issues.

At the height of the Cold War, the Intelligence Community had three rather substantial worldwide collection networks, the most expensive one and largest being for signals intelligence, next for imagery, and third espionage. There are other networks that are important as well but those three largely define the size and the expense of the Intelligence Community, the national community, and that also of course includes the infrastructure to analyze and produce the intelligence that comes from those networks.

The Community, as this Committee knows, has downsized substantially in recent years. Along with the DOD, it leads the Federal Government in the reductions in personnel, and the rather steady level budgets in nominal terms that have come out of the interaction between the executive and legislative branches since the Berlin Wall went down have produced on the order of a 15 to 17 percent real cut since the beginning of the decade.

Like Stan Turner, I would have preferred not to see CIA stations closing overseas in the last few years, but close they have. The reason is budget, and the result is that these three worldwide networks now instead of having solid worldwide presence have something that I have characterized as being more akin to worldwide reach; that is, each is smaller than it was but each is capable with some redeployment of focussing on major questions. If I were to use the analogy of the military, I would say it is like the country having gone from 15 aircraft carrier battle groups to 10. You aren't present in as many places as you were before but with some adjustment you may be capable at a lower cost of reaching where you need to reach.

Modernization has been terribly important as we have gone through downsizing and reducing the size and scope of these networks. I am particularly grateful to this Committee, in personal terms during the two years that I was DCI, in your working with me to try to support within the budgets we had the modernization that we needed. We fought several battles side by side in that regard to preserve new technology, and I think the American people ought to be grateful to this Committee as much as I am.

Now, I come down on the Schlesinger side of the reorganization issue. I think that it is possible to do a great deal of wheel spinning on the question of reorganization and indeed some outputs can be negative. In somewhat different ways, Bill Colby and I both exhort the Hippocratic oath to the Intelligence Community, first of all, to do no harm. I think reorganization needs to be handled slowly and

very precisely and carefully unless the disruption is to replace useful work.

Generally I do not agree with the establishment of a new director of national intelligence. I think the structure is reasonably well set up the way it is, although I think we took an important step last year in setting up a central office for the acquisition of airborne reconnaissance platforms and centers, and I believe you may well need a sterner hand with respect to managing imagery dissemination, particularly down in the military services. It may be that a new structure could be somewhat analogous to the architectural side of the National Security Agency, but I certainly don't think that an organization as large and complex—with its own career service and all the rest—as the NSA needs to be set up for managing imagery and dissemination.

The main point I want to make is that allegations that the Intelligence Community has not been adapting to deal with the issues of the post-Cold War era are nonsense. That adaptation began long ago. Bill Webster spoke to it. My predecessors here going back to Dick Helms, and I imagine beyond, have been focusing on such issues as terrorism and the proliferation of weapons of mass destruction and rogue states, and not solely on the Soviet Union. Those changes in focus continued while I was DCI and I am sure they will continue under John Deutch as well.

That does not mean that we can afford to ignore Russia. The stresses inside the Russian military today, the effectiveness or lack thereof of Russian custody of fissionable materiel, Russian advanced weapon technology which may be sold to other countries, and the complex and troubling partnerships between Russian business, Russian organized crime, and the so-called power ministries in Russia, including Russian intelligence, are important subjects on which we need to continue to collect intelligence.

As far as a vision for the Intelligence Community or the CIA is concerned, Mr. Chairman, I have asked that a one-page statement which I worked out last year in a number of iterations with the senior career officers in the CIA be inserted in the record.

Mr. WOOLSEY. I won't read it but I do want to point out something that several of the previous directors mentioned, which is the vital importance of objectivity in intelligence, in not politicizing intelligence, in being willing to make the calls the way you see them, right or wrong, not to help a policy. Certainly we must be the servants of the policy community in terms of much of the timing and much of the format of what we provide, and certainly for much of what we target in intelligence. We need to focus on substantive matters that are of interest to them.

But in terms of descriptions of what we think the reality is, there is only one rule and can be only one rule: call them like you see them—explain your reasons for why you call them that way—but call them like you see them.

I think there are two main reasons why some people have not understood how thoroughly over the years the Intelligence Community has been adapting to the post-Cold War world. These three networks for electronics signals collection, for reconnaissance, and for espionage existed during the Cold War and they exist now. So some people are led to believe that unless you get rid of one or

more large networks you are not adapting to the post-Cold War era. Senator Moynihan made both Jim Schlesinger and me think of Henry Stimson in that regard. I will leave that point for the moment.

I think a second reason for this false assumption that the Intelligence Community has not been adapting to the post-Cold War era is that some people confuse the fundamental design of these three substantial collection networks, now having worldwide reach, with the tasking of them. That is somewhat like confusing military force planning with military operational planning. We need to have these networks and to be able to collect intelligence with them. They are largely sized and designed to obtain information needed to manage or avoid major crises and support military forces—in short to focus on such matters as proliferation, terrorism, plans and activities of rogue states and powerful states such as Russia that can harm the United States, and to support military operations.

But once those networks are in place they may be used in peacetime and in other circumstances for other very useful purposes, somewhat the way military forces that are sized and designed for war may be used to assist in the event of hurricanes or rescues and the like. But that does not mean that one can normally cut out some small share of these collection networks by changing a collection tasking and save any appreciable amount of money. A reconnaissance satellite, for example, which exists for these major questions, can be tasked to map poppy and cocaine fields. You cannot cancel a portion of that satellite and save the share of its capability that does the poppy and cocaine field mapping. If the Nation doesn't want the Intelligence Community to collect information about narcotics and doesn't want the shutter to be opened when that satellite is flying over the Andes or southwest Asia, then you can keep the shutter closed, but it will not save you substantial amounts of resources.

I want to close with one final observation, Mr. Chairman. It does great harm to the country's confidence in the government when irresponsible charges are leveled against government agencies. Intelligence is especially vulnerable to this because so much has to be kept secret to protect intelligence sources and methods and sometimes it is impossible to answer false charges thoroughly or promptly or publicly.

Last summer a number of charges were made about the new headquarters building in Northern Virginia for the National Reconnaissance Office, its allegedly excessive cost and size, and the alleged failure by the NRO to inform the Congress about it. After a careful examination I would characterize the report as saying something between 95 and 98 percent of those charges turned out not to be well-grounded. Congress was kept fully informed by a distinguished former member of this Committee staff, Marty Fega, who was the Director of the NRO during the period in question. We made some changes to the way the annual budget books are provided to committees, and I think that was justifiable, but that was essentially it. There were only two institutions that looked at this matter factually and objectively, in my judgment, the Washington Times newspaper and this Committee.

For your tradition of balance and fairness as well as your thoroughness and care in this and in many matters, the country continues to owe you a heavy debt. Thank you.

The CHAIRMAN. Thank you, Mr. Woolsey.

[The statement of Mr. Woolsey follows:]

House Permanent Select Committee on Intelligence
May 22, 1995
Testimony of R. James Woolsey
Director of Central Intelligence, 1993-95

Mr. Chairman, Members of the Committee, it is an honor and a pleasure, as always, to appear before this Committee. You have asked that we limit our remarks to ten minutes, so let me turn immediately to the central issues.

The intelligence community consists principally of three substantial networks around the world that are capable of collecting intelligence -- from electronic signals, imagery, and espionage -- and the infrastructure that is necessary to analyze and disseminate their product. (There are other collection networks that make important contributions as well, such as that for open sources and that for measurement and signatures intelligence, or MASINT, but I believe it is helpful to focus on the three first-mentioned since it they that drive the cost and structure of the intelligence community.)

At the height of the cold war these three networks were extensive enough to give the United States a world-wide presence to conduct these three types of collection. Today, as a result of substantial downsizing in U.S. intelligence, these three networks are capable, I would say, of something slightly less ambitious. The phrase "world-wide reach" probably best characterizes it. That is, each network is smaller than it once was, but each is structured so that, with some notice and time for redirection, the U.S. can have the ability to collect intelligence from virtually anywhere in the world with one or more networks.

The intelligence community, as this committee knows, has downsized substantially in recent years -- at a pace about double what is called for in the national performance review. Indeed, along with the Department of Defense, of which much of the intelligence community is also a part, intelligence has been the government pace-setter in downsizing -- close to a 25 per cent personnel reduction will take place during the nineties. Budgets, although they have stayed roughly level in nominal terms in recent years, have shown substantial reductions in real terms. These combined reductions in personnel and in real resources will mean that during the nineties the number of reconnaissance satellites is being cut nearly in half, the number of NSA facilities is also being heavily cut, and the CIA's overseas presence is seeing substantial reductions both in the number of locations and in the number of intelligence officers at each one.

It is vitally important that all three of these networks, and the capability to analyze and disseminate intelligence, be modernized as the community's size shrinks. This Committee was a staunch supporter, within the limited resources that we had, of

my efforts to protect this modernization while I was DCI. We fought several important battles side by side in that regard, and we prevailed in some major ones. I will always be grateful to you for that, and the American people should be as well.

As far as the organization and structure of the intelligence community is concerned, I believe that this is a subject for which the ratio of verbiage to positive action is often very high -- in part because people often want to have something public to say about intelligence and organizational matters are comparatively easy to discuss without running into classification problems. It is also a subject in which there is a serious risk that the ratio of reorganizational activity to improved effectiveness will be similarly high. One can do a lot of reorganizational wheel-spinning, in short, for very little positive effect. There is always the risk, indeed, that the output of reorganization will be negative, as disruption replaces useful work. Reorganizers should adhere to the Hippocratic Oath: first of all, do no harm.

In my judgment, the networks responsible for signals collection and for espionage are generally well-designed and well-managed by, respectively, the NSA and the CIA under the DCI's overall authority. The imagery collection network needed clearer central management of the acquisition of its airborne reconnaissance platforms and sensors, and we took an important step last year in creating a central office in DoD for this purpose. Imagery dissemination, however, has been a serious problem. As the Gulf War showed, this is principally a difficulty down in the uniformed Services, and I have come to believe that a strengthened hand for a central imagery organization, by whatever name it is called, could probably help provide a better architecture for imagery dissemination. Within the Services that hand should probably operate similarly to the architectural direction given to the collection and dissemination of signals intelligence by NSA.

I would make one further principal point, Mr. Chairman. Allegations that the intelligence community has not been adapting to deal with the issues of the post-cold war era are nonsense. The proliferation of weapons of mass destruction, terrorism, rogue states, and other such post-cold war issues have for some years been given substantial prominence by my predecessors and by the superb professionals of the intelligence community. We emphasized this new focus while I was DCI and I'm sure that this constant refocusing of the community will continue under John Deutch as well. At the same time we must all realize that just because the cold war has ended does not mean that we can now afford to ignore, for example, Russia. The stresses inside the Russian military, the effectiveness of Russian custody of fissionable material, their advanced weapon technology, which may be increasingly sold to other countries, and the complex and

troubling partnerships between Russian business, organized crime, and the power ministries, including Russian intelligence, are all important subjects on which we need to continue to collect intelligence.

As far as a concise statement of mission and vision in the post-cold war era is concerned, I believe that the "Vision, Mission, and Values" statement that the senior career officers in the CIA and I drafted together and disseminated last year puts these matters clearly and succinctly, Mr. Chairman. I would ask that a copy of this one-page document be entered into the Committee's record.

I believe that there are two main reasons why some have not understood how thoroughly and continuously the intelligence community has been adapting to the post-cold war world.

First, because the three networks with world-wide reach that I described existed during the cold war and continue to exist, albeit in changed form, this is sometimes thought to indicate an unwillingness by the intelligence community to adapt to the new era. The reality is that these three networks must continue to exist and exhibit at least a world-wide reach if the United States is to continue to be a world power. We cannot afford to close any one of them down as then-Secretary of State Stimson closed down the State Department's code-breaking in the 1920's, remarking the "gentlemen don't read one another's mail."

If we, for example, shut down the CIA as Senator Moynihan has proposed, the virtual destruction of our ability to conduct espionage would make us essentially blind and deaf to the plans and activities of terrorists and the proliferators of nuclear, chemical, and bacteriological weapons around the world. Secretary Stimson and the rest of the world were quite lucky that in the inter-war years the U.S. Navy and British intelligence were both being less than gentlemanly with respect to Japanese and German mail, and the codes that protected them. Without intelligence, at many crucial turning points World War II could have gone in very different directions. If we, as a nation, make a Stimson-like mistake by closing down a vital intelligence capability, then the next time we need a crucial item of intelligence there may well be no one else to cover for us.

A second reason for the false assumption that the intelligence community has not been adapting to the post-cold war era is that some confuse the fundamental design of these collection networks with the tasking of them. These three networks, and the infrastructure to analyze, produce, and disseminate intelligence, are principally designed to obtain the information needed to avoid or manage major crises and to support our military forces. In short, they are largely designed to learn about such subjects as the proliferation of weapons of mass

destruction, terrorism, the plans and activities of rogue states, and to help the military prepare to fight effectively. But because they must continually be in existence in order to be able to fulfill these functions, they are available for other purposes with very little added effort or cost. A reconnaissance satellite, for example, can be tasked to map poppy and cocaine fields. A CIA case officer can learn about an effort by another country to bribe its way to a contract to the disadvantage of American business. If the nation decides that it doesn't want to use the intelligence community to learn about such matters, then the community can easily stop, but very few resources will be saved. There is no way to cancel a portion of a satellite and save the poppy and cocaine mapping money, for example.

I would close with one further observation, Mr. Chairman. It is possible to do great harm to the country's confidence in the government by irresponsible charges against government agencies. Intelligence is especially vulnerable to this, because so much has to be kept secret to protect intelligence sources and methods, it is sometimes impossible to give public answers to false charges either thoroughly or promptly.

Last summer a number of charges were made about the new headquarters building in Northern Virginia for the National Reconnaissance Office -- its allegedly excessive cost and size, and an alleged failure by the NRO to inform the Congress about it. A careful examination eventually revealed that it was of average cost per square foot for GSA buildings in the Washington area and of average occupancy density for its office space; the somewhat greater than average width of its halls meant that, for the whole building to be occupied to an average density, the NRO would have to double up in some offices. The intelligence oversight committees of the Congress were fully informed all along by the very able then-Director of the NRO, a former staff member of this Committee, Marty Faga. Some modest changes were made in the structure of the annual budget books provided to the Committees. That was, essentially, it.

Only two institutions looked at this matter factually and objectively, the Washington Times newspaper, and this Committee. For your tradition of balance and fairness, as well as your thoroughness and care in this and in many matters, the country continues to be in your debt.



Vision, Mission, and Values of the Central Intelligence Agency

Our Vision

To be the keystone of a US Intelligence Community that is pre-eminent in the world, known for both the high quality of our work and the excellence of our people.

Our Mission

We support the President, the National Security Council, and all who make and execute US national security policy by:

- Providing accurate, evidence-based, comprehensive, and timely foreign intelligence related to national security; and
- Conducting counterintelligence activities, special activities, and other functions related to foreign intelligence and national security as directed by the President.

Our Core Beliefs and Values

What we stand for:

- Intelligence that adds substantial value to the management of crises, the conduct of war, and the development of policy.
- Objectivity in the substance of intelligence, a deep commitment to the customer in its form and timing.

How we do our work:

- Teamwork throughout the Agency and the Intelligence Community
- Total participation of an excellent and diverse work force
- Innovating and taking risks to get the job done
- Adapting to both a changing world environment and evolving customer needs
- Accepting accountability for our actions
- Continuous improvement in all that we do

The CHAIRMAN. Mr. Colby indicated to me prior to starting that he needed to leave about 4 o'clock. In order to try to make certain every Member has had a chance to go around as much as possible, we will try to adhere closely to the timer and we will have a second round.

You have all thrown out a lot of what we recognize as a tremendous challenge. It is good to know that not everything that has been suggested is totally agreed to, and I didn't expect to come to closure on these issues just today.

A lot of the difficulty of what we have, and I think this was expressed very well by Jim Woolsey—I think Jim was the only DCI who has served his entire time post-Cold War—is that we no longer had the bear but we had a lot of small serpents out there. We spent a lot of time in the Cold War period looking at the Soviet Union and Russia. We never had 500,000 troops there, as we did in Iraq, Kuwait and in Saudi Arabia. We have had soldiers in Somalia, in Haiti, we have a Bosnian conflict, we have North Korean problems, Cuban problems and issues in other parts of the world.

And the assets that, generally, it requires to monitor these are virtually the same expense regardless of whether it is focused on one part of the world or many parts, and many parts is sometimes more expensive. Yet there is this build-down phenomena. And I think what concerns me is that a lot of what seems to be driving people is the idea that in post-Cold War we should be able to do so much more for so much less. We can't.

I have a talk that I used to give that fell on deaf ears—maybe not so much now—that at a time of military build-down, your intelligence capabilities need to build up. You need to know your intelligence is right, as you have less capability to respond in a rapid fashion militarily. But how do we make intelligence what I call portable?

We have to have some portability. We don't know where our next conflict is going to arise. We don't know until, literally, hours before that conflict arises. The least portable I think in terms of intelligence is human intelligence. It takes a period of time to have someone in place to be able to really understand the culture and be ingrained in that culture so they can provide that intelligence to us, but it also happens to be, maybe, the least expensive. So maybe we have the luxury of expanding human intelligence.

Months ago, I threw out the suggestion of maybe having an intelligence czar. I am glad to see there is such avid support for a national director of intelligence. I assumed that it would cause discussion and I think maybe it has. Let me focus for a moment on the role of the DCI, which is whom we think of as our head of intelligence.

Should we separate the DCI and the role of the head of the CIA? That was addressed by some of you. If you have to spend so much of your time in an agency that seems sometimes to be the target, whether rightfully or wrongfully—that is a debatable question, but it is an easy target and sometimes goes unanswered—should we separate these roles and how does that encompass the entire picture of what some of you were talking about? For example, with a director of imagery, where do you bring all that in? How different

should the role of the DCI be in the future than it has been in the past?

Mr. WOOLSEY. I will try it, Mr. Chairman.

I don't think it is at all impossible to serve effectively as Director of Central Intelligence—sort of the chairman of the board, if you will, of the Intelligence Community—and also the head of the CIA or essentially Chief Executive Officer of the CIA. A DCI has a lot of flexibility about how much he delegates. In most recent times, there has been an executive director, sort of the number three official inside the Agency itself, to whom much of the day-to-day management of the Agency can be delegated and the deputy directors for operations, intelligence, science and technology, and administration are normally extraordinarily capable people who can report to the DCI periodically.

I think it can work the way it is established now. But the problem is the one that was stated earlier I think. Normally these problems arise directly or indirectly out of the espionage operations, although sometimes out of the DI and allegations of politicization, but more often than not it is problems related to the clandestine service or the Directorate of Operations that creates public concern. When a director is involved in sorting those out and there is a great deal of criticism publicly, that can take a lot of time, first of all, but it can also create a situation in which the Community as a whole, I suppose, gets less attention than would otherwise be the case.

I think the overall value of having a single head of intelligence for the United States gives American intelligence, especially abroad and especially dealing with liaison services as well as in budget matters here at home, an advantage and a position that is almost unique in the world of intelligence in the nations in the world.

I think it is one that ought not to be discarded lightly. I don't think the time pressures are the main problem and I think a DCI can correct them and deal with them by appropriate delegation as he or she sees fit. The issue often comes up in the context of whether or not, as I believe Stan Turner said, the Directorate of Operations ought to be pulled apart from the Directorate of Intelligence. The stated reason is usually for there to be no interaction between them so that, let's say, as it was if covert action is being conducted by the same overall organization, the CIA, that is writing analytical reports, as it was in Central America in the late 1980s, some argued, and particularly back then, that that would corrupt the analysis and make it very difficult for objective analysis to be done.

I think that sort of concern was behind many of the proposals—both by the Senate Committee under Senator Boren and this Committee under Congressman McCurdy—for separating out and having a DNI separate from the CIA so you could move the DO and the DI apart. I think in this post-Cold-War era, that is a problem that, if it existed then, doesn't exist now. I think it is now important to try to get the DO and the DI to work more closely together.

They both have regional expertise, they both have linguistic and substantive expertise. There is a lot to say for having them work even more closely together than they have historically. And by having separate career and promotion lines, I think it is a simple matter to make sure that the analysts report objectively and the opera-

tors continue to run spies or, on occasion, to conduct covert action as the President directs.

The CIA and DCI centers for counterproliferation and counterterrorism and for crime and narcotics have worked in this integrated fashion for some years with the DO and the DI working closely together. They work well and I don't see any reason for trying now to solve what may have been a problem back in the 1980s—operations inappropriately affecting analysis. I just don't think it is needed today at all. I would leave the organizational structure pretty much the way it is with the possible exception of strengthening the imagery dissemination area by a separate imagery office.

Mr. TURNER. I am the only one who took the other position so I ought to respond a little. The Director of Central Intelligence is the intelligence advisor of the President of the United States. He can not delegate responsibility for understanding what is going on in 180 countries around the world and on a lot of major issues like terrorism, and so forth. He has to spend a great deal of personal time studying and understanding.

As I mentioned in my remarks, the problem with coordinating our intelligence activities has not grown smaller; it is growing bigger and more important as we spend more and more money on these sophisticated systems that have to be pulled together. The director of CIA is the spokesman for the intelligence world and spends a good deal of time here and elsewhere which he cannot delegate much. To add to that, the management of a sizable organization like the CIA, where he has to get into day-to-day, nitty-gritty Mary Jo and Bill Smith problems, dilutes his time and effort.

The point was made this would create another layer of bureaucracy. Yes, but you don't need any more people; they are there in the Intelligence Community staff now. It is a matter of how you organize it.

As far as the Directorate of Operations and where it belongs, it is a collection agency and it belongs in a cluster with collection agencies just as there should be a cluster of analytic agencies. And you don't want to foster an intimate relationship between the HUMINT collection agency and the CIA analytic agency. You want to foster an intimate relationship between the CIA HUMINT collection agency and all the analytic agencies, be they in the Defense Department, State Department, or CIA.

You want that service of HUMINT to be for everybody, not to have a special tie to CIA just as you want the NSA and NRO to feed to everybody. Therefore, separating that tie to emphasize the fact that the HUMINT people are there to support a lot more than the CIA analysts I think is very important.

Mr. SCHLESINGER. There is a good deal of talk about strengthening the authority of the Director of Central Intelligence. If one is going to strengthen the authority of the Director of Central Intelligence, it is not going to be achieved by dividing his assets. I think that one must think of ways of adding to his bureaucratic authority if he is to be strengthened. If we are going to have a DNI and a DCI, both with overlapping and conflicting authorities, we are going to have less.

With respect to the issue of greater separation of the DO or the clandestine services from the DCI through delegation, I have an open mind on that one, but it must be in the context of not weakening the overall authority of the DCI. If he loses overall authority, he is not going to be able to accomplish the things that this Committee has held out as desirable.

Mr. COLBY. Mr. Chairman, over the years I tried to get the analysts and the operators to work closer together because I found if you left the analysts totally in their ivory tower, they came up with very abstract conclusions. And if you let the operators just go do their own thing, they tried to go around the analysts and produce the information direct to the clients. Therefore, the more you could rub them together, put analysts out in field stations, for instance, rotating assignments between analysts and operators, the more they understood each other and they could contribute.

As for the idea of their unduly affecting the overall analysis, I found none of that and I think the best example is the recent revealed memorandum Mr. Helms sent to President Johnson saying there ain't no domino effects. I was out there fighting the dominoes and I am sure the operators were convinced they were surrounded by dominoes, but that analysis which Dick Helms courageously sent to a President who was not known for his receptivity to hostile assessments I think demonstrates that the analysts very clearly will remain objective. It is part of their inbred belief.

The CHAIRMAN. Thank you.

Mr. Dicks.

Mr. DICKS. I want to thank all of you for your statements. I thought they were extraordinarily good. We may have to send you around the country, if the American people could hear from you in defense of the Intelligence Community, I think it would do a lot to placate some of the concerns because there is a crisis of confidence. I think you are right, the executive branch, the President, and the Congress, together, have a major responsibility to stand up and defend the Intelligence Community.

It is very easy to take political shots at the Intelligence Community because it is called on to do some extraordinarily difficult things. I believe that we need to have you speaking out more around the country so that people have an understanding of the importance of the work that is being done in terms of the defense of the country and national security. I think, having listened to you and having spent some time on the Commission along with Congressman Porter Goss, that the central issue in my mind is, how do we give additional strength to the Director of Central Intelligence and his Community responsibilities?

It seems to me that—and Dr. Schlesinger, you have talked about not getting into wiring diagrams and I kind of, as I think about this, I am more and more convinced that that is the right approach. You have this problem—and you served in both positions as Secretary of Defense and as the Director of Central Intelligence, and I thought that Jim Woolsey and John Deutch worked out a very good relationship between the two agencies but that was very dependent on the personalities involved.

How do we give the Director of Central Intelligence more authority, and I think particularly budgetary authority, so priority deci-

sions can be reached within the Intelligence Community about what is important and where money should be shifted? In the post-Cold War era where you have the three "INTS," you might decide that maybe we ought to be doing more in HUMINT than in imagery or signals or there could be another set of priorities.

How do we give the DCI the authority? We have to give him the budget authority and what will that do to the relationship between the Director of Central Intelligence and the Secretary of Defense which has to be a good, positive relationship? The more I think about this, I think that becomes the central question for this Committee and for the Commission to address.

Mr. Schlesinger, as the only person who served in both jobs, maybe I would ask you to start with that.

Mr. SCHLESINGER. The first point that I would make is that the dominance of personalities in these matters is not restricted to Mr. Woolsey and Mr. Deutch. All power in the executive branch flows from the President of the United States. If the President of the United States takes a keen interest in intelligence and also indicates how he would like the responsibility allocated, and if he relies upon the DCI for making these judgments, then they will happen, with one exception I shall come to in a moment. But they will happen if the DCI is backed up by the President.

He can work with the OMB. He will have, under those circumstances, the collaboration of the Secretary of Defense. In the absence of that, the normal bureaucratic wiring diagrams will be dominant. I could in private at least give you some illustrations of that.

Now, the exception, of course, is the question of the tactical intelligence or so-called tactical intelligence. The Services will continue to have substantial authority over that, whether or not it formally falls to the responsibilities of the DCI because they will work out one way or another of obtaining the resources that they need in intelligence.

As a general proposition, much of the discussion of legislation on Capitol Hill some years ago, the Boren bill, the McCurdy bill, that looked to centralization of the authority missed the important point; that each decisionmaker is going to want to have resources under his own control—responsive to his own desires and if they have to disappear, even if they have to go underground, nonetheless, they will find ways to do that, have those resources leading in that respect will be the services, who have magnificent ways of achieving goals without their surfacing.

Mr. COLBY. When Mr. Schlesinger was Secretary of Defense, I had an argument with him about money for a particular system. He said, no, I can't afford it, I have to have the money for the Navy. I said, you have got to have it. And he said, no.

So I wrote a note to the President. The President had the National Security Council review it, and said we will do it. And Mr. Schlesinger then accepted that.

Mr. DICKS. Have you ever forgiven him?

Mr. SCHLESINGER. I didn't know he had written the note to the President. The question of forgiveness starts now.

Mr. COLBY. But as Mr. Schlesinger says, the Director has all that authority today. He doesn't need any more.

Mr. DICKS. The Director doesn't need any additional authority?

Mr. COLBY. I don't think so. He can complain to the President any time he feels he needs it.

Mr. HELMS. Mr. Dicks, I wholeheartedly agree with Mr. Schlesinger and also with Mr. Colby. I would like to point out, however, that bipartisan support in the Congress for the Director will be almost as important as the support from the President because as soon as you gentlemen get into the questions of the budgets and so forth, your desires and will are obviously going to obtain in the end.

And I would like to think that this whole problem of the relationship between the Congress and the Intelligence Community is one of misunderstandings and that somehow a sort of adversarial relationship seems to have been built up either in the Senate or the House, I am not sure where. But it seems to me that this should be a two-way street.

If the intelligence people are going to come to you and lay all their plans before you, their operations and all the rest, you in turn owe them support when you decide that it is okay or you haven't objected. I think that this is very important for you to consider. In this future which is unmapped, very difficult for us to ascertain what is going to happen, we have to hang together rather than trying to hang separately and publicly make points off each other. So I think the present system can be made to work very well with presidential support as well as congressional support.

Mr. TURNER. You asked, Mr. Dicks, how to strengthen the role of the DCI in the budget area. President Carter strengthened the DCI's role by putting it in his Executive Order that the DCI would prepare the intelligence budget and that the DCI was responsible for the tasking of all collection assets, those in the CIA and elsewhere. Both authorities, I believe, have disappeared from the Executive Orders and they have disappeared in practice today.

The advantage of having the DCI prepare the intelligence budget was that we tried, whether we succeeded or not, to put a philosophy, a strategy, behind that budget so that it wasn't just an amalgam of compromises of a committee nature. It had been that, in my opinion, previously because the DCI could not overrule an objection by one of the Defense or State Department or other agencies. He had to compromise and come up with a budget.

By having the authority to put that budget together, I believe I was able to put a philosophy behind it. When we went to OMB and the President, the Secretary of Defense on several occasions was able to get the President to override my choices. He had full opportunity, of course, to do that and when he was better at making his case than I, he won. But, nonetheless, there was more of a strategic thrust to budget than there would have otherwise.

Mr. SCHLESINGER. There is an important point there. To some extent, may be desirable to have an overall philosophy, but one must remember, and I hope that the gentlemen on this Committee remember that the Intelligence Community does not serve just the President of the United States and the senior policymakers.

The Community is there to help countless decisionmakers up and down the chain of command. They are there to help ambassadors in the field, they are there to help military commanders, subordi-

nate military commanders as well, and one ought not to impose a unified view. Some overall philosophy is desirable, but a unified view would be very dangerous in terms of the ability to serve these countless decisionmakers out there who must be served effectively.

Mr. WOOLSEY. If I could add one point. Washington is full of institutions and organizations in which you can't make anything happen very effectively because there are lots of people who can say no. At least in the executive branch with respect to the budget and resources for intelligence, there are really effectively now two principal players, the DCI and the Secretary of Defense, who at least in the two years I was in the job delegated this responsibility almost exclusively to the deputy, so it was Bill Perry for the first year that I was there, and John Deutch for the second.

Having only two of you to get things sorted out is not bad. There are lots and lots of ways to make decisions in the executive branch which are much worse than that.

Now, I would prefer, as only a former DCI—unlike Jim, not a former both—in a sense having the DCI have more authority. But as a general rule, the closeness and cooperation with the Defense Department and the uniformed military, the fact is that much of intelligence, all three of those networks now—not just the two technical ones but also espionage—are used very heavily by the Department of Defense and by the military services.

That creates a situation in which the Defense Department is a pretty good customer and normally I think a pretty good collaborator on resources. And compared with having the DCI out there by himself dealing, in effect, year in year out with OMB, I think I would prefer the current situation where, in essence, the DCI and Deputy Secretary of Defense together work out a community budget—with the DCI pretty much doing what he believes important for the CIA—but they work the Community budget out together and then have it dealt with as part of the defense budget. I think there could be a lot of arrangements in terms of budgets which could be worse than that.

Mr. DICKS. Does there need to be an Executive Order to do that.

Mr. WOOLSEY. The Executive Order which we operate under now puts far and away the lion's share of the intelligence budget as part of the DOD. The authority, as Stan said, is in the hands of the DCI and the Community staff. De facto this creates this partnership. You might be able to make it more explicit if, in essence, the DCI and the Deputy Secretary of Defense disagree about a major system or a major issue, that it is going to go to the President the way it did with Bill and Jim, or the way it did on one or two occasions when I was in the job.

That is just the way it is. I think that is all right. I think you can make that work.

The CHAIRMAN. The gentleman from California, Mr. Lewis.

Mr. LEWIS. Thank you, Mr. Chairman.

I first want to express my appreciation to all of you gentlemen. It has been a very stimulating discussion. Admiral Turner, I sometimes wonder if you are not just sticking the needle out there to cause reaction. The interchange has been very healthy. We all too seldom get that kind of interaction and reaction.

I was going to ask another question first, but I would like to try to take us to a point that concerns me most. As a DCI makes decisions that involve the direction and priority for intelligence agencies, I presume that his highest level support staff has some effect upon the molding of those directions.

And Judge Webster kind of crystallized it by saying that the products of your work should be intended to advance understanding and not serve the internal intelligence—some internal intelligence policy agenda. I would think that, in terms of our oversight responsibility, it is very important, while we are here, to try to get a handle on how we can better understand whether there is the prospect of that occurring—whether a DCI is going forward with support that reflects that independence and objectivity. Indeed, I am encouraged by the potential of not just the products of the work, but the service to the country.

So, since we are in a period of transition, do any of you have any ideas as to how we can best measure whether that is the trust that is developing and taking place? I must say I am asking the question with some concern about, at least from what I read, high level support in transition.

Judge WEBSTER. I don't know that I can give you an effective answer, Congressman Lewis, but I will try. First of all, there is a certain confidence that can be placed in reliance on the work product of career professionals, experienced scholars on the analytical side, and experienced collectors of intelligence and an assessment of the reliability of that information, that they have no personal axe to grind.

It is the responsibility of the DCI to be sure that those under him in supervisory roles do not convey to those impartial and objective experts any sense of how they want the end product to come out, or how they believe that would advance the administration's agenda, or their own personal agenda.

You have every right as a Member of this Committee to examine, through staff or personally, the underpinnings of our analytical capabilities. You can put a number of things in place that are intended to surface opportunities where younger or lower-level people doing the hard work are seeing their ideas scuttled or suppressed by looking for the footnotes and looking for the alternative points of view, which are encouraged all the way through, including the entire Intelligence Community papers and the NFIB papers and the estimates, and the requirement that they be put out there where the consumer can see those differences and not have them buried elsewhere.

From time to time we would get reports that some particular group in some particular area of our work felt that their views were not getting to the top, were not even getting to the DCI, and those reports required follow-up. In some cases there was some merit and we made changes; in others, they were just overly zealous and feeling unduly sensitive about their work. But by giving credence to the principle that professionals are expected to be objective, and by watching the people who have the supervisory responsibility and being accessible to you and to any of the most severe types of questioning, I think we have the best chance of demonstrating our objectivity and always calling it as we see it.

From time to time people in the administration, because they have so much at stake, worry about intelligence assessments, feeling that it may influence the political judgments and choices, particularly on the Hill. Sometimes they worry that we have developed favorites in one way or another.

I recall particularly some of my favorite colleagues saying, "Why are you pushing Yeltsin?" They didn't like Yeltsin at that time. There were a lot of reasons why they didn't like him. You don't want to hear all of those now. But I kept saying, we are not pushing Yeltsin, we are telling you that Gorbachev is becoming increasingly irrelevant in the political scene and the person whom you need to pay attention to, and to keep track of, is Boris Yeltsin.

But there is always that little tension and pressure if, when we come out with something they say, "This isn't helpful." We want to be as open as we can with you about those issues.

Mr. WOOLSEY. Congressman Lewis, let me add one point. One thing we tried to do over the last couple of years was to write estimates and assessments in such a way as to ensure that if there was a school of thought among the analysts—sometimes even if only one analyst held it—if it were a responsible position and differed from the rest of the Community's judgment, we would insert it. Not just as a footnote, just sort of saying that the director of naval intelligence takes a footnote here and believes such and such, but rather to try to use disagreements within the Intelligence Community among analysts as a way of explaining to the policymakers what the arguments were about, and to use the disagreements as a teaching device.

I sent one estimate on narcotics back five times because it was too bland, it was too "on the one hand this, on the other hand, that." We wanted it to be used in such a way that the disagreements were highlighted and were used to teach the policymakers what the analysts were in fact arguing about. I think that is a useful tool.

Now, when it all comes down to it, you have to do what Dick Helms did in 1967 and sit down and just write a personal letter to the President on a point. I did that several times when I was in the job, and others here have done the same thing. Because sometimes you simply cannot afford a leak. It has to get to the boss, and so you just sit down and write your judgment and put it in.

But I think there are ways, important ways that the Congress can ensure that a DCI is insisting that objective assessments and not policy-serving assessments be done, and in a lot of ways it is the most important thing that an oversight committee does, other than ensuring that the law is not being violated. But other than that, I think in many ways that is the most important thing that an oversight committee can do.

Mr. HELMS. Mr. Lewis, I refer to this as the "kill the messenger" problem.

Mr. LEWIS. Okay.

Mr. HELMS. Because you can't imagine the unpopularity of a Director of Central Intelligence who goes in and tells the President that his policy in a certain area, in this case Vietnam, is wrong. And I want to say that President Johnson, who has a reputation

for having been very difficult to deal with, was an enormous gentleman about these things. He took a lot of bad news and took it standing up. He seldom complained about it. But there was always a tendency in the White House, as well as in the executive branch, to talk to the director in a low voice saying, "Aren't you on the team?" And the point is that you are not supposed to be "on the team" in this matter of analysis.

I don't think any of the Directors here have lacked courage in this matter; I just raise the point because in answer to Mr. Lewis' question, it takes a certain amount of guts to face the music. After all, the President is the man who appointed you in the first place.

Mr. LEWIS. As Mr. Colby introduced his comments off the top, he described a syllogism that is the current difficulty; the East-West confrontation is over, who needs intelligence, let alone defense, and we live with that every day. He said that, like most syllogisms, it is simple, clear, and just plain wrong.

I made notes about Iran after that comment and raised a question. When did we know it and what did we do about it? I don't know that, but I want to go back and read some of that. It is very important that if you do your work well you have customers who pay attention to the products. How can we play a role—that is, the Committee with its responsibilities—in improving the response of the users? Or is it a role that we should even involve ourselves with?

Mr. HELMS. Call up the Director and ask him. Have him come up.

Mr. WOOLSEY. He ought to level with you about that. He really should.

Mr. SCHLESINGER. Well, that gets into even deeper issues, the nature of the U.S. Constitution, the separation of powers and so on.

Where you have a case in which intelligence is being served up as a way of supporting administration policy, you will know that quickly enough, because it is usually obvious, or obvious after awhile.

The real problem I think is when there are biases amongst the analysts, and there is no way in advance of this Committee or anyone else being able to make judgments about that. Why is that the case? Because the analysts' bias tend to be particular hobby horses of that little community. And where the analysts as a group strongly and fervently believe in arms control, they will see Soviet behavior in a different way than if they are not fervent believers in arms control. In that case, they may not be objective, they may be following their own preferences. But in another case, those same analysts will be totally objective.

So it can only be a reflection of a case-by-case analysis of particular issues that lie before the Intelligence Community, and that makes the job very hard for you and for other consumers. Where there is a deliberate attempt to support administration policy that should soon be plain enough. Little children in the street will stop you and tell you that the intelligence is being cooked.

Admiral TURNER. Mr. Lewis, one thing the Director can do to check on this kind of built-in bias is to commission outsiders to do a parallel independent estimate of the same situation, without access to classified information even. I mean, it isn't always that crit-

ical. And you, if you think it is the Director who is putting the bias in, can do the same; that is, go to some academics, and if you find that there is a really marked difference, then you have to confront the Director and deal with it.

Mr. LEWIS. I guess I am really. Mr. Chairman, I have gone way beyond my time. I am really concerned about the number-one user seeing the value and really using the products, and then from there I am less worried about what happens in this Committee.

Mr. SCHLESINGER. Well, the Intelligence Community can do no more than educate the instincts of the final decisionmakers. If the final decisionmakers' instincts are beyond education, there is not much that the Intelligence Community can do about it.

The CHAIRMAN. Mr. Coleman.

Mr. COLEMAN. Thank you, Mr. Chairman.

Thank all of you for your attendance this afternoon. Many of us are very, very appreciative of not only all that you have done, but for your continued counsel.

One of the issues that we confront here from time to time is in the area of law enforcement, one that I think maybe, Judge Webster, you might care to address.

It has been a suggestion that perhaps the Federal Bureau of Investigation can be given the mission to gather intelligence on international organized crime, terrorism, counternarcotics, not just here at home as it does now, but abroad as well.

Would you care to comment on that subject?

Judge WEBSTER. I did want to raise that issue and did so in my statement. I think it is one that requires some very serious thought and some very careful consideration by this Committee and others that have jurisdiction over the FBI and its law enforcement role, as well as its intelligence role.

I can see the point of view of those in the FBI who believe that some of the more recent statutes dealing particularly with terrorism have expanded their role in being able to investigate people for crimes committed against U.S. institutions and U.S. citizens abroad if they are able to obtain personal jurisdiction over the people who are committing such crimes. And therefore, as an adjunct of that responsibility, to have an increasingly larger relationship with various agencies abroad.

I think all of that can be done in an orderly way. The difficulty comes when the liaison relationships that have historically existed between the Central Intelligence Agency and Foreign Services, begin to rub against competing agencies working within the same framework. There needs to be a more orderly mechanism to deal with this.

As I said earlier, there was always a good working relationship that said, Inside the United States, nothing can be done without coordinating with the FBI and counterintelligence; outside the United States, nothing can be done without coordinating with CIA. That is still a pretty good rule of thumb, but if you move away from calling it intelligence and begin to call it law enforcement, you may come to a different conclusion, but you will not avoid both the confusion that exists among our foreign friends and among those working, trying to work successfully.

We have had a few bad starts and from what I can tell, the situation with the Stasi records when they were obtained aggravated the relationship as to whose job it was to see the files when they could have been seen by both sides. None of that struck me as being impossible of solution; we just didn't handle it right.

I think that more thought on how these two agencies carry out their respective responsibilities with turf aggrandizement and with consciousness of the sensitivity will produce the best result. But it needs study and it needs help, and I think this is one thing I would recommend the Committee put on its list for very careful consideration.

Mr. COLEMAN. Well, thank you, Judge.

I would say, former Director Woolsey and this Committee have wrestled with the issue of—really the broader question that emanates I think from my first question, and that is whether or not intelligence support to law enforcement can be enhanced, to what parameters we should involve it as well. You correctly phrased the question, Judge, putting the question originally I think.

Judge WEBSTER. Yes. That question I think is a lot easier to answer. We have looked at it very carefully, and although some law enforcement agencies, particularly Drug Enforcement Administration, expressed some worry that somehow intelligence-derived evidence would be tainted and not be usable in a court, the concern really doesn't meet the test of careful analysis. The Justice Department has looked at it.

There are ways of providing that kind of assistance when information of a law enforcement nature comes into the possession of the intelligence agencies. Although there are probably good sides and bad sides of the Guatemala situation, it is very clear from the chronology that as soon as the law enforcement issues were identified, the agency took the problem to the Department of Justice to determine whether it had an interest in which it wanted to proceed. That is a good way of doing it. It isn't always that way, but it should be.

Mr. COLEMAN. I might ask, Mr. Woolsey, if you would care to address any further some of those issues that you did last year, maybe with a view toward whether or not any of the matters that the Committee and the conference Committee took up are in fact working.

Mr. WOOLSEY. Well, I haven't made a study of the effect of the legislation as it eventually passed. You are talking about the counterintelligence section in the authorization bill last year, I guess, Congressman Coleman.

Mr. COLEMAN. Yes, sir.

Mr. WOOLSEY. I was disappointed in the outcome of that, because two very important amendments that Senator Nunn got Senator DeConcini to agree to on the Floor were dropped in conference, and I thought it made it a considerably more confusing and less useful bill.

I think that the world of the late 1940s was one of rather substantial FBI and CIA rivalry overseas, particularly in Latin America, and the evolution since that time pretty well effectively sorted itself out in the way Judge Webster described: CIA primacy overseas, FBI primacy at home. There is good reason for that.

It is also important that the ambassador, in delicate and difficult circumstances overseas, have the ability to know what is going on in the country that he is accredited to, and to make sure that agencies are not working at cross-purposes.

Now, if you move, as your question suggested, organized crime, terrorism, and narcotics or anything that is relevant to any of those into the law enforcement sphere, and draw the conclusion that only law enforcement agencies should collect intelligence on those matters, and as is sometimes asserted by law enforcement agencies overseas, that they really don't need to coordinate with the ambassador because it is law enforcement and it is not foreign policy, you could end up heading back into the late 1940s in terms of conflict between intelligence agencies and law enforcement agencies, and I don't think that would be wise.

I think it is terribly important that the intelligence agencies structure themselves and manage themselves in such a way as to be helpful and useful to law enforcement, so that they can maximize the utility of what they collect abroad to the law enforcement agencies so that prosecutions can be made in these areas, and this is a delicate and difficult line to draw.

My experience has been that normally when you put a smart FBI special agent and a smart CIA case officer out together, they know what each one of them best does and they know normally how they can get the problem solved and what is appropriate for one to do and what is appropriate for the other to do.

Sometimes things get a little snarled up back here in Washington with turf fights and the like. But the professionals both in the Bureau and in the Agency out there on the street and in the field, as long as they are not being given improper incentives or turf aggrandizing incentives from Washington, are usually pretty good at working out what they can do together.

Mr. COLEMAN. I would just say in conclusion, I want to thank you for your answers. I am hopeful that the Aspin Commission will address the issue at some length. I think there are numerous questions, and Judge Webster raised one of the concerns of most of us, and that is whether or not we are doing effective law enforcement if in fact we cannot reveal sources as we are sometimes required to do in the courthouse.

I am very interested in whether or not we can properly effectuate that, whether we need to legislatively revisit that issue or not. Again, thank you for your answers and thank you for being here.

Thank you, Mr. Chairman.

The CHAIRMAN. Mr. McCollum.

Mr. MCCOLLUM. Thank you very much, Mr. Chairman.

I was here for all of the testimony, but was out for some of the opening round of questions, so forgive me. If I start to retread anything on the questions, tell me. But I was very interested in following up on another line of inquiry that Judge Webster raised in his testimony.

He says the DCI needs greater authority in dealing with the selection and retention of the leaders of the Intelligence Community. I think by implication that means a say-so in that selection and retention and perhaps something authoritatively put either in statute or by Presidential decree, if I am not mistaken.

That is what you intended, is it not, Judge Webster?

Judge WEBSTER. Yes, it is, Congressman.

Mr. MCCOLLUM. What I am interested in knowing is what the rest of you think of that. Is that indeed something that you concur in or not?

And maybe I ought to start with Ambassador Helms and walk across the group that is here today. Do you concur, Ambassador Helms, with the fact that the Director of Central Intelligence needs to have greater authority in dealing with the selection and retention of leaders in the Intelligence Community than he presently has? If so, do you have any suggestion of how we give it to him?

Mr. HELMS. In my opinion, that will never happen. The Secretary of Defense will never cede authority over appointment in his area.

Mr. MCCOLLUM. Dr. Schlesinger?

Mr. SCHLESINGER. Well, I am not sure that it would always be nice. If there is harmony between the senior officials, I think that consuming agencies appropriately would consult with the Director of Central Intelligence. But all of these agency heads are going to want to have people that they know are responsive to their interests and not responding to the perspective of the Director of Central Intelligence. If they don't have confidence in those that they put into the job because they feel that he is too responsive to the Director of Central Intelligence, they will get somebody else to consult with and they won't listen to the normal intelligence apparatus.

Mr. MCCOLLUM. Admiral Turner?

Admiral TURNER. I think you draw a distinction between those agencies that collect and those agencies that analyze. I don't think the Director should have authority to appoint, for instance, the head of DIA or the INR because that gets to what Jim was concerned about earlier of directing the way the intelligence product comes out. But as far as the collection agencies, NSA and NRO, yes, I agree fully with what Bill has said.

Mr. MCCOLLUM. Mr. Woolsey.

Mr. WOOLSEY. I don't—under the current circumstances, Congressman McCollum, there is a range of degrees of influence of the DCI on these appointments, and it is largely a matter of comity. There is probably the greatest influence on the NRO, because the NRO is essentially a joint venture between the CIA and the Department of Defense. And under the current arrangements, I think that is appropriate. Nobody is going to end up being Director of the NRO if he isn't really satisfactory to both the Secretary of Defense and the DCI.

DIA and NSA are really Secretary of Defense appointments, but Secretaries of Defense normally consult with a DCI, and even regarding INR at State normally, when things are working in a reasonable fashion, what will happen is that a Secretary of State or a National Security Adviser or a Secretary of Defense will pick up the phone and will call the DCI. This happened in the case of almost all of the appointments at the senior level of the Intelligence Community that occurred when I was in the DCI job, and one of them will say, Jim, we were thinking of so and so, what do you think? And if a DCI has strong objections to a new head of, let's

say, of NSA, he is probably going to be able to keep that from happening, but he is unlikely to be able to appoint someone.

Mr. MCCOLLUM. But that is a big difference from what I think Judge Webster was just saying. I think he is saying that there needs to be a message delivered out there that there is some authority in the DCI, that he actually is there, that rather than just dealing in the back room—say, somebody calling him up and saying, okay, what do you think about this—that if you don't have that, in the absence of this message, you will always have people running all over the field.

Mr. WOOLSEY. I lean in Judge Webster's direction on this, toward a somewhat greater degree of formality. I can understand why a Secretary of Defense should believe that he shouldn't have a Director of NSA or DIA that was appointed over his objections, but I do think that for all of these senior Intelligence Community jobs, it would be a plus if the consultation and the approval at least of the DCI and perhaps in one or two of the appointments even giving them to him to do would be, I think, a plus.

Mr. MCCOLLUM. Thank you, Mr. Woolsey.

Judge Webster, I know you just gave a lengthy answer to questions related to your comments about the FBI and the CIA overlap. I didn't catch—and maybe I walked in on it and you had said it—did you offer any suggestions of the mechanism you alluded to in your testimony, or is that what that discussion was all about when I walked in?

Judge WEBSTER. No, I did not offer a specific mechanism, but I believe that more progress can be made and now is the time to make it, not after everybody has made a race for the courthouse.

Mr. MCCOLLUM. You would be willing to work with us, or work with the Commission in establishing or finding what that mechanism would be, you just don't have it spelled out in your mind right now?

Judge WEBSTER. Certainly, that is right.

Mr. MCCOLLUM. Dr. Schlesinger, one question, and my last related to the panel here today, was related to your testimony and I thought was very emphatic. You said, restructuring is not the answer. My question to you, what is the answer?

Mr. SCHLESINGER. Well, I said in the next sentence, restructuring is part of the answer. It may be part of the answer. But one has to focus on the substantive problems that the Community is facing, and there is a tendency, I fear, to I believe that by reworking relationships within the Community or changing the wiring diagrams, we are going to either solve a substantive problem or save substantial resources.

As you know, Congressman, some years ago the Boren bill and the McCurdy bill attempted to reorganize ab initio the Intelligence Community. I think that starting from that end is the wrong thing. You start from the problems that you face and see how to adjust the mechanism best to deal with those substantive problems.

Mr. MCCOLLUM. If you had to name the problem that most stands out to you that we face—and I know you alluded to it, but I didn't get it clearly spelled out like that statement you just made—what would be the single most significant problem that we face with the DCI and with the intelligence agency today?

Mr. SCHLESINGER. Well, I am referring of course to the problems that the Nation faces with regard to ethnic conflict and what the foreign policy of the United States will be. Until this Nation decides what its role will be in the post-Cold War world, you can get a lot of information being pumped up from the Intelligence Community, but we do not know—we do not have a doctrine where we will intervene, where we will ignore developments and so forth. We as a Nation have not defined what our interests should be. That is the problem that we ought to resolve first. Then the institutions can respond to that.

Mr. MCCOLLUM. And in the absence of that, not only in terms of restructuring, but in terms of what the agencies are doing now, is there a lot of wheel-spinning, wasting of time and producing of paperwork, opinions and reports, that, since we don't know where we are headed and what our interests are, are probably wasting money and maybe those people's time?

Mr. SCHLESINGER. Amen, and certainly wasting their time and diverting their attention from things that could be more productive.

Mr. MCCOLLUM. Now, we didn't ask you, and I am not going to take the time today because I don't have it, but at some time I would love to wrestle with you over what those interests are and what they should be. And maybe that is the subject of another whole hearing, Mr. Chairman. But thank you very much. I appreciate it.

The CHAIRMAN. Mr. Laughlin.

Mr. LAUGHLIN. Thank you, Mr. Chairman.

And to all of you former DCIs, I want to thank you for your significant contributions.

Mr. Chairman, we had much of this same panel last year, as I recall, or a year and a half or so ago, and I think they are a valuable resource to our Nation, so I appreciate the time that you took to prepare to come here and also for being here today. I apologize for not being here during your testimony because I was on an airplane, I don't know how high in the sky, but I got here after all of you had testified. And I have now had the benefit of reading most of your statements. And, Admiral Turner, I must say your statement caused me to speed read with great improvement.

But having said those opening remarks, I want to go to you, Dr. Schlesinger, about budget considerations, because as we have struggled with the huge deficit and budget matters, the intelligence budget has come under attack along with the defense budget and you are in the unique position of having served in both top positions.

In looking at some of the comments you made about changing technology, it made me reflect back on 27 years ago. I lived at a field station operated by the Army that was doing collection, and today that doesn't exist because the need for it doesn't exist; it has been handled in other ways.

With this budget consideration and the fact that all of our military services operate collection activities as well as their tactical needs and your partial abhorrence of restructuring, do you have any thoughts or suggestions that we need to look at the DCI having a different relationship in priorities and in budget considerations, and also in mission direction in the military area? I know

you touched on that somewhat with Mr. Dicks, but I want to probe it a little further with you.

Mr. SCHLESINGER. Well, let me start with the question of saving resources within the Department of Defense. In the first place, on that issue, frequently the DCI and the Secretary of Defense are collaborators and their goals are the same. And, under budget pressure—I underscore that—under budget pressure the services may also be prepared to collaborate.

Look at the way that the—in the field, the CINCs have now a unified intelligence operation, whereas in the past you had three separate services looking at their counterparts. That is partly a result of greater enlightenment, but it is also a reflection of budget pressure.

If you take the service that you once performed for the Army and you look at the manpower that was employed during the Vietnam War on signals intelligence and look at the manpower in that area today, you will be commendably astonished by the efficacy with which the Director of the NSA has managed to bring down manpower over the years.

I think that there are directions. Some of them are obvious. I think that in the past, the notion that the CINCs should be at the mercy of the three services in the field was a false notion. But it took budget pressure to get us to that point and a changed attitude on the part of the services.

I want to emphasize that unless you have that collaborative attitude on the part of the services, you are not going to get to your goal. They will find some way of thwarting you, politely, furtively, but thwart you successfully.

Mr. LAUGHLIN. Well, I witnessed in the area when I was a young soldier, and my question went beyond that and I think you have addressed that with the budget pressures.

The other thing that you touched on in your written statement that I have curiosity about because of recent revelations with Ames and with Guatemala is when there are—you mention in your written statement when there are huge public outcries about some Intelligence Community activity, foreign services get nervous about dealing with us.

Is there something that this Committee can do legislatively, or is there advice that you have for the new DCI how that is managed when we have these problems erupt from time to time?

Mr. SCHLESINGER. I think the answer to that is discipline. Discipline in this country has broken down over these last 30 years. There are a variety of reasons for that: attitudes changed—generational attitude, perhaps. The unity of the country in the Cold War is now a thing of the past. But the only cure for that is the confidence of foreign intelligence agencies that here in the United States we have reasonably good discipline.

So I urge you to persuade the DCI and others to punish those who inappropriately leak. There is a much greater rate of leakage from the agencies than could have been imagined 20 years ago. And if I may say so, if you can discipline your own Members and your own staff to assure that charges come forward at the appropriate time.

You mentioned the Ames case. The Ames case indeed was thoroughly vetted. There is a report from the Inspector General. At that point indignation on the part of the Congress seems to me to be highly appropriate.

In the case of Guatemala, until the facts are known, and I think Bill Webster may have alluded to this earlier, the fact of the matter is that the Agency, as soon as it discovered that there had been activity in Guatemala that deviated in such a way that the law enforcement people should be informed, informed them.

There were, as Admiral Studeman indicated, problems in management and process. But until the facts are known, restraint with regard to public statements about whether or not there has been criminality on the part of the CIA, strikes me as mandatory.

And so I urge you to persuade your own staff and Members to refrain from comments that anticipate those things that have not yet come into the public realm.

Mr. LAUGHLIN. Mr. Chairman, I have one last question.

Ambassador Helms, you invoked smiles on the faces of every former DCI seated at the panel when you said that DCI would go to the White House and some senior staff person would in a low voice say, "Are you a member of the team?" Well, first, I want to assure you that that is not confined to DCIs. Members of Congress, at least I have received that same admonition. But I have a different way to respond, because I don't work for the President or any member of the President's staff.

Do any of you have suggestions for us on how we protect or how we enclose in a capsule or do something to ensure that the DCI puts the Nation's interests first, as I believe all of you did during your tenures in your position. How do we help you when you go to the President of the United States and exhibit what we have learned, very fortunately to Ambassador Helms' credit, but to speak truthfully to the President about the facts rather than about the policy?

Mr. HELMS. Sir, I don't know that there is any solution to this problem, if it is a problem. I don't think that congressional involvement would help in the personal nature of the tension that develops when the President and the DCI disagree.

I think that the only thing is for each to stand on his own judgment and for the President, who after all is probably the most powerful man in the country, but certainly in the executive branch, to recognize that he is serving the interests of the country. How Congress gets into this kind of a matter, I really don't know. I don't believe it is feasible, nor do I think it is particularly desirable.

I simply wanted this Committee to understand that this whole issue of independent analysis in the Intelligence Community is of vital importance to the future of this country. It tends to get lost sight of somehow in many of the newspaper articles and writings of pundits and columnists and on television to the point where I think the American public has come to wonder why it is that there is any issue at all. In point of fact, the people don't have the faintest idea that the agency was set up in the first place to do this kind of analysis.

In other words, there is a confusion out there. And if the Congress wants to help, the way to help is within your own constitu-

ency by explaining what this Intelligence Community is all about and what it is supposed to do.

Mr. LAUGHLIN. Yes, Judge Webster.

Judge WEBSTER. I have a little speech that I made from time to time and I also made that speech public so that it would be on the record, and it was a friendly little speech about the preparation of intelligence assessments and intelligence papers. And I said that we would prepare those papers objectively and with as much expertise as we could, and they would be available to the policy members, as well as to the appropriate committees of the Congress, and certainly this one. And then the policymakers could do anything they wanted with those papers. They could read them, act on them, file them, throw them away, but the one thing they could not do was change them.

And so we tried to set up a system under which we never submitted intelligence papers for editing by the policymakers. We submitted them to them for their study, but not for their editing. And the fact that this Committee has access to those reports I think is a substantial deterrent to anyone trying to suppress them or to pretend they didn't exist, and I think that system works very well.

Mr. LAUGHLIN. Dr. Schlesinger?

Mr. SCHLESINGER. The difficulty is that you have a range of problems out here. One has to work on them simultaneously. If you wanted to protect the DCI in terms of his capacity to be independent without, what shall I say, fear of punishment or retribution, that is easy enough by considering giving him a term in office, as the FBI Director has. The difficulty is that there are other questions at the same time.

I believe it was Congressman Lewis who said, "How do we persuade the leading decisionmakers and the top decisionmakers to listen to the Intelligence Community?" The way to build credibility is to have confidence in the White House that the people working in the Intelligence Community, while they are objective, are sympathetic, and if one is cut off, as it were, by a fixed term in office, there will be less inclination or, one might even say, even less inclination to listen to what is said.

So there is a way of solving the problem that you specify, but it may do damage to other problems.

Mr. LAUGHLIN. Mr. Woolsey?

Mr. WOOLSEY. I guess I would just say inevitably, Congressman Laughlin, to some extent this is a skunk-at-a-garden-party kind of job, and insofar as Members of Congress over the years will have influence over a President's picking DCIs, one major job requirement I would say in a sense is not to want too much to be liked.

Mr. LAUGHLIN. Thank you very much, Mr. Chairman, and thank all of you.

The CHAIRMAN. I thank the gentleman.

Mr. Woolsey has indicated that he needs to be to an appointment at five. I wanted to let people know that before Jim leaves—and I will leave that to your discretion—I would just say that as I have been sitting here, I have made about two pages of additional questions that I would like to ask. That is not going to work, because, obviously, other Members haven't even had a first round.

This is exciting for us. I know there are better things that you would rather do for three or four hours than sit out there in front of us. In that we had indicated we would try to do this from 2:00 to 5:00, I am going to try to hold it to that frame.

I would just ask that if there may be additional thoughts that any of you have about these things, or if we might pick your brains further as we go forward in this, that we can keep the dialogue going. IC21 has been going on for some time. It is not starting today, and it certainly isn't ending today. I think we would be very remiss if we did not use the wisdom that you have.

So if you would let us know that we can continue to be in a dialogue, we will try to keep it within the time frame that we had agreed to.

Mr. SCHLESINGER. Mr. Chairman, we are members of your team.

The CHAIRMAN. I would say that I feel pretty good having you as part of the team.

Mr. WOOLSEY. Mr. Chairman, I am honored to be here today and would be honored to come back any time the committee wants. The only reason I have to leave is—I have to be downtown at 5 o'clock—is I have to be on a national radio program about Congressman Aspin. It is something I simply can't be late for. I apologize.

The CHAIRMAN. At this time again, I thank you for that. So, I will put my two pages away and we will get back to you.

The gentleman from Delaware, Mr. Castle.

Mr. CASTLE. Well, thank you very much, Mr. Chairman.

I am in a position where I may have to leave in the middle of my questioning, so this is going to be very fast, I might say.

The CHAIRMAN. Well, that means they don't have to answer them.

Mr. CASTLE. I want to change the subject a little bit and I want to discuss the subject of terrorism, I guess in the broadest sense, and just get your views on the relationship of the Intelligence Community in the area of terrorism.

I don't know if we have seen a rise of both foreign and domestic terrorism or not, but in my judgment we have. We clearly are seeing materials that are less detectable than they have been before. We are seeing common materials that are used for devastatingly negative purposes. I see, basically, that we are getting into sort of a non-country situation.

It seems to me that our intelligence agencies, when they were founded, were basically aimed at other countries. We were dealing with Russia, we were dealing with Iran, Iraq, whatever it may be, over the course of the years. Now, we are getting into situations in which you may have ethnic groups that are not country-related. You may have religious groups, you may have causes of one kind or another that are hard to even fathom until you hear what the details of these causes are, and you get these groups rallying around and acting out in certain ways and are causing tremendous problems.

Sometimes I get concerned about who should be addressing this. Is this a role of the Intelligence Community, both domestically and externally, or is it the role of somebody else, and is it something that is going to worsen? Perhaps this is already being addressed.

Perhaps my concerns—my concerns are there, they are not going to change—that these issues are not being addressed are inaccurate.

I was interested in your views on that. You may even disagree with the concept that that is happening at all, or that the Intelligence Community should be involved at that particular level. Do you have any thoughts?

Judge WEBSTER. If I may take a crack at answering that question, since I have addressed it from both domestic and international perspectives. There is very clearly a role for intelligence in dealing with terrorism in all its forms, and the forms do change and their targets change and their methods of attack do change.

I think you are quite correct that these are not necessarily state-sponsored events. But most successful international groups who engage in violence to support a political or religious agenda have patrons, and those patrons are in essence leaders of autocratically controlled states who supply money and support and information, and sanctuary for their activities.

Over the years, the Counterintelligence Center at CIA has been I think very successful in understanding the nature of these groups, anticipating some of the targets and taking effective steps with other countries in the world to deal with them.

I will come back to the FBI in just a moment. I think it should be said that a good part of the intelligence around Pan Am 103 was derived from the intelligence agencies and supplied and made available to the law enforcement components as they did the forensic work and follow-up investigation. It was painstaking and enormously complicated, and yet it produced the information that the American people needed to have, even though the people are still evading apprehension and trial.

During the Gulf War, one of the still untold success stories was how intelligence identified the teams that Saddam sent, the success that the Intelligence Community working with other nations had in identifying and stopping and causing the arrest or keeping in motion the teams that Saddam Hussein had threatened to put in place and in fact did put in place.

These are not things that American intelligence can do alone. It has to do it with the support of other countries involved. The same is true with the FBI in pursuing terrorists and trying to deal with those who are operating internationally. They do it through cooperative efforts.

For many years on the law enforcement side both the United States and Interpol considered that terrorism was essentially a political act, and therefore, would not command the member countries to participate in helping to apprehend and bring these people to justice. With a great deal of effort by United States law enforcement agencies and diplomatic initiatives, both the United Nations and Interpol changed their view of what was called in then the Article 3 position, and now actively cooperate in locating and bringing terrorists to justice.

I guess the short answer is, in the United States clearly, the FBI is primarily engaged in developing permitted intelligence through Attorney General guidelines that will try to get there before the bomb goes off. Any outside or international involvement that can

be identified through the network that has been established through the Counterintelligence Centers are made available to the FBI for its work. It is an important, cooperative effort, and I think it has worked very, very well. More improvement, of course, is desirable but I think the track record is a very good one.

Mr. CASTLE. Thank you, Judge Webster.

Let me yield back the balance of my time, if I may, Mr. Chairman, because I do have to go and there are others who may want to ask questions, although Dr. Schlesinger wanted to respond.

Mr. SCHLESINGER. Thirty seconds. Your question goes to subnational groups of terrorists, but all of these subnational groups are operating some place. They are doing so either with the support of some foreign state or at least the tolerance. If it is the tolerance, it may change over time, just as the Sudan suddenly gave up Carlos, after we had fought him for 20 years. We see the Kurdish insurrectionary groups operating in Syria. That is more a reflection of their relations with the Turks. These are subnational groups, they have subnational purposes, but somebody is protecting them and we can find out about them and sometimes can partially deal with them through those protectors.

Mr. CASTLE. That somebody often is multiple countries too, which makes it more complicated as well. It is a difficult question. But thank you very much.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Castle.

The gentleman from California, Mr. Dornan.

Mr. DORNAN. Mr. Chairman, I had two other markups today in the National Security Committee on scraping for dollars for some important modernization systems. So I am sorry I missed the first hour and a half of what I know was a fascinating presentation, and if we had had George Bush and Bob Gates here, which I hope we will do at a future meeting, maybe informally at a luncheon or something, it would help us formulate our approach to the future, particularly with the tragic passing of Les yesterday.

What I would like to do is ask a question that you, all of you, could answer at will, in writing and maybe handle it as something beyond Code Word/Top Secret. Here is my problem. If Pat Schroeder were sitting here, she would look out and analyze that this is the essence of the cliché, old boy network. I think that she has in her fondest dreams the percentile gender breakdown of the United States being 53 percent female, that her wish for the Intelligence Community 50 years from now would be an old girl network of at least 53 percent of every slot, from the most exotic James Bond covert operation in the field right up to the very top of every agency in the Community.

And here is what I would like to know. If we pursue an aggressive agenda of gender diversification, not to mention every other type of diversification, as aggressively as the Clinton team, quote, unquote, "team", seems to be pursuing it, will it not continue to destroy the morale at all of the intelligence agencies and will it not be counterproductive, on a fast track instead of an evolutionary track, in breaking through glass ceilings that are unfortunate, but are a carryover from 5,000 years of culture? Is it not going to constantly be tearing at the core of morale in every agency in the In-

Intelligence Community to be trying to pursue, I repeat, on the fastest track possible, firing people, forcing retirements, demoralizing them, easing them out, to find in a pool—that I don't know where it exists—to replace 53 percent of the people in every single community of our intelligence services from top to bottom with females, while at the same time work every other category of diversity from Native American Indians to you name it?

Could I please have an answer in writing from all of you, if you think this is a serious problem, or if you have even thought about it. Few haven't thought about it, fine. But if you have thought about it, it is my feeling and my understanding that it is a gut-ripping, career-wrenching, agency-destroying policy to have an expression going around all of the various agencies that it is—not a testosterone thing—what do they call it—that it is a gene thing, a chromosome thing. That is what I hear from the whispering at NSA, and CIA, that somebody is retiring early with years of good service ahead of them and they say, "Sorry, it is a chromosome thing." They are saying, "I am being crapped on and I am out of here."

Is this a factor from your conversations, being the elders of yesteryear? Are you hearing this, that it is severely hurting our Intelligence Community? I thought I would end with a very nice, simple question here.

Mr. DICKS. I think we should do this in a classified hearing.

Mr. DORNAN. Anybody that wants to comment on it before 5 o'clock, go step on those land mines.

The CHAIRMAN. We will anxiously be awaiting the answer, I am sure.

Mr. DORNAN. That is a question of the utmost delicacy, Mr. Chairman.

The CHAIRMAN. We will have other questions, maybe not quite so delicate, that we will be wanting to ask. We have been discussing, as the gentleman from California mentioned, possibly getting together. We want to provide that opportunity once again to visit about some of these things and further questions, obviously at your convenience. Perhaps the former President and the former Director of CIA, Mr. Gates, were invited. It would have been obviously great if they could have been here as well. I don't know that it would have certainly been any better. There was nothing lacking from the participants today.

Mr. DORNAN. Mr. Chairman, a footnote comment on that. I have over a hundred letters, some of them anonymous, from people in every agency of government, Agriculture, FAA, Transportation, everywhere, people horribly offended by some of the moves out of the White House in how they approach teaching people about communicable diseases and/or diversity, and I have written to Mr. Clinger, one of our Chairmen, and he is going to have hearings, I think starting next week, on this.

So quite seriously, if any of our former DCIs wanted to write to me directly or to you and keep anonymity about whether or not there are serious comments, that this whole diversity agenda program is crippling morale, I would handle it with the utmost delicacy, as I am sure the Chairman would.

The CHAIRMAN. I would certainly make that encouragement.

Mr. LAUGHLIN. Mr. Chairman, are we about to conclude the hearing?

The CHAIRMAN. We have another Member who has not been recognized.

Mr. Goss is recognized.

Mr. SCHLESINGER. I think that Mr. Dornan deserves a response. The response is that the question of affirmative action is no less controversial within the Intelligence Community than it is within the society at large.

The CHAIRMAN. In that he had made that request, we appreciate Dr. Schlesinger's comments—Mr. Goss is recognized.

Mr. GOSS. Mr. Chairman, I, like other Members of this Committee, regret deeply that we were not able to be here for the whole afternoon. Regrettably, there was other business on the Hill, but I don't think any as important or fascinating as what this is about. Unfortunately, I don't think we have time, other than a sense of urgency about 5 o'clock, a great sense of urgency about concluding this, and I hope to have the opportunity to address questions later.

I think there are some very critical questions out there about the role of the DCI, about the amounts of politicals that is creeping in or not creeping into the relationship, how much is enough versus the trade-off for access both at the White House and on the Hill. I think those are the kinds of questions that I would like to have the opportunity to frame for you and get your views on them. They are the ones that probably we will be talking about and writing about both in this effort and in the downtown effort that is going on, the Aspin Commission.

I think that there is a great deal out there, so rather than trying to frame six questions that I am interested in and figuring out which is the most important. Do we have the luxury of putting down those questions and asking if we can indulge further?

The CHAIRMAN. If the gentleman would yield, we intend to do that. We thought we would provide questions to you in advance, finding a time that would be convenient. Obviously, it would be optimum if all of you were available at the same time; if not, sometime when one or two of you were available, it would give us a chance to lay those questions out as well as, some of the areas we would like to pursue. So, I would encourage the gentleman and any other Members of Committee to do that.

Mr. GOSS. Thank you. As a former very, very junior member of the Agency, it is extraordinary for me to sit and look at so many distinguished people in the same room. It is an honor and a privilege. Thank you.

The CHAIRMAN. The gentleman from Texas.

Mr. LAUGHLIN. Mr. Chairman, I want to thank you for holding this hearing because it is important not only for the Members of your Committee to hear the input from distinguished Americans who have served our Nation, but it is important for the American people at this time when the whole area of the Intelligence Community and the importance of intelligence to our Nation, the question of spending any amount of money on intelligence is being debated.

Certainly these gentlemen gathered here today represent a substantial part of the living assets of directors of the Central Intel-

ligence Agency and not only have they exhibited courage in dealing with the President of the United States on giving advice, a good number of them have demonstrated courage in combat on the battlefield in foreign lands. So they bring much to us, but they bring more to the American people, because I think your testimony today, and I hope in future occasions, help the American people understand why we have an Intelligence Community.

Mr. Chairman, you did an important service to the Nation today and I thank you.

The CHAIRMAN. Thank you.

Mr. Dicks.

Mr. DICKS. Mr. Chairman, I want to thank the witnesses too. I think this has been a very good start. I hope we can get you to come back again when we can spend more time and go through more of the questions. I think we have gotten off to a very good start.

I want to associate myself with Dr. Schlesinger's response to Mr. Dornan. Every leader in the Intelligence Community that I know of is committed to trying to improve the diversity of the workforce and I am very confident that some day there will be a female Director of Central Intelligence, and it is something that I personally would look forward to.

I think the country expects us to try and have each of these agencies do a better job in terms of diversity and also to have more opportunities for women, and so I just wanted to make that point because I don't want there to be an impression that the agency leadership is coming to us as Members of the Intelligence Committee and saying that they don't support this. Every leader in the Intelligence Committee that I know of supports the direction that I think we are moving in.

The CHAIRMAN. Every member of the Committee has been very interested in this area. There have been a number of subcommittee hearings on this area.

Mr. DORNAN. Would the gentleman yield? It is just a question of how you do it. You have to do it constructively and the people promoted or recommended for promotion absolutely have to be qualified. The existence of our Nation is at stake, but with this particular Community, you don't play games and destroy careers; it is how you do it. That is why I look forward to some private communications.

The CHAIRMAN. I would, again, thank each of you very much. This is a first of a series that we will be having in open session. I hope we will have the opportunity to further discuss this in open session. We are committed and dedicated, realizing we have a long road to go down, but you helped us start down that road today, I think, in a very successful fashion. You have set a high standard of interest in these hearings.

I don't know that the other hearings will be able to live up to the expectations that this one has delivered today. Thank you for your patience. We look forward to visiting with you in the future. I thank the Members.

The hearing is adjourned.

[Whereupon, at 5:05 p.m., the Committee was adjourned.]

FUTURE OF TECHNOLOGY—IC21

THURSDAY, JULY 13, 1995

HOUSE OF REPRESENTATIVES,
PERMANENT SELECT COMMITTEE ON INTELLIGENCE,
Washington, DC.

The Committee met, pursuant to call, at 9 a.m., in room H-405, the Capitol, the Honorable Larry Combest (Chairman of the Committee) presiding.

Present: Representatives Combest, Lewis, Goss, Dicks, Richardson, Coleman, and Pelosi.

Staff Present: Mark M. Lowenthal, Staff Director; Louis Dupart, Chief Counsel; Michael W. Sheehy, Minority Counsel; Christopher Barton, Professional Staff Member; Catherine D. Eberwein, Professional Staff Member; Mary Engebret, Professional Staff Member; L. Christine Healey, Professional Staff Member; Kenneth M. Kodama, Professional Staff Member; Mary Jane Maguire, Chief, Registry/Security; Mike Meermans, Professional Staff Member; Lydia Olson, Chief Clerk; Susan M. Ouellette, Professional Staff Member; Diane S. Roark, Professional Staff Member; Timothy R. Sample, Professional Staff Member; Caryn Wagner, Professional Staff Member; and Kim Cutler, Speaker's Office.

The CHAIRMAN. In an effort to try to save time, I will start the hearing. I recognize Mr. Coleman for a motion to close the hearing.

Mr. COLEMAN. Pursuant to Rule 3 of the Rules of Procedure of the House Permanent Select Committee on Intelligence and Rules 11 and 48 of the Rules of the House of Representatives, I move that today's meeting be closed to the public because the national security would be endangered if the matters to be considered were, in fact, disclosed.

The CHAIRMAN. The Clerk will call the roll.

The CLERK. Mr. Combest.

The CHAIRMAN. Aye.

The CLERK. Mr. Coleman.

Mr. COLEMAN. Aye.

The CLERK. There are two Members voting aye, no nays.

The CHAIRMAN. Thank you for coming.

Welcome to the second of the Committee's IC21 hearings. For those of you who are not yet familiar with IC21, it is our zero-based review of the Intelligence Community to determine its ability to fulfill its role in the 21st Century. At the first of our hearings, six former DCI's offered their views on the organization of the Community and the roles and authority of the DCI. We also have hearings planned on intelligence support to policy-makers and to military operations. Today's hearing is a particularly important

one, because it addresses how technology can be brought to bear in all of these areas and what the Community and this Committee should be doing to manage that process.

Today we are fortunate to have representatives from the Intelligence Community, the Department of Defense, and from civilian industry. We welcome Mr. Richardson from the Community Management Staff, Dr. Buchanan from the Advanced Research Projects Agency, and Dr. Carlson from David Sarnoff Research Center. These gentlemen have been asked to share with us their thoughts on the following several questions: First, what are the most promising enabling technologies for the Intelligence Community in the 21st Century in the areas of collection, processing, analysis and dissemination? Which of these areas will experience the most revolutionary change in the next decade?

Second, what types of technologies will be spearheaded by commercial industry, and what areas might need government development because there is no readily apparent commercial application? How should the Intelligence Community work with industry in the area of technology development?

Third, if properly harnessed, what effect would or could these technologies have on the organization, functions and productivity of the Intelligence Community? Do you foresee any major shifts in the relative dominance of the intelligence disciplines?

Finally, what current obstacles do you see to the Intelligence Community's ability to incorporate and use effectively new technologies? What do you think needs to change?

Before we let our witnesses address these issues, I would like to recognize the Ranking Member, Mr. Dicks. I realize he has another Appropriations Committee hearing ongoing and appreciate his being here.

Mr. DICKS. Thank you, Mr. Chairman. It should be apparent to any observer of intelligence that many of the striking advances in intelligence operations over the past few decades were propelled by developments in technology. It is also apparent that intelligence dollars have done much to drive the development of new technologies, resulting in improvement in the collection and processing of raw data, as well as analysis and dissemination of intelligence information. Therefore, if the recent past is any guide, intelligence successes and technology development are closely intertwined and mutually supportive.

As the Committee conducts its examination of intelligence for the 21st Century, it is critical that it get a firm understanding of near- and far-term technologies which have the potential for improving, and perhaps transforming, all aspects of the intelligence enterprise. We should become familiar with new technologies that will extend collection and processing into new operational modes and against new kinds of data sets. I hope that we are also introduced to promising technologies that will facilitate new approaches for organizing and managing the work of the Community.

I sense, however, that the days when government monies and needs set the pace for technology research and development have passed. It is said that industrial needs and the commercial marketplace determine, to a greater and greater extent, what technologies are developed and to what standards.

So, what are the implication of this for intelligence? Will market-place forces be enough to generate the technologies needed to push intelligence forward? Or, will the Intelligence Community have to continue to sponsor R&D in technology sectors which address its special needs?

The Committee is extremely fortunate to have three witnesses today with backgrounds and expertise well matched to the issues I have raised. They are all familiar with the technology needs of the Intelligence Community and knowledgeable of technology trends which could have a bearing on the Community's future performance. I look forward to hearing their views on what mixture of private-sector and government-sponsored R&D will yield the best results for intelligence.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you. I would be remiss if I didn't welcome Larry Cox. Anything he has said about this Committee should be taken with a grain of salt. We would like to have our just due. It is always nice to have him back.

We appreciate your being here. We have your statements. They will be made a part of the record. You can use those or divert from those if you wish, whatever. We are not going to limit what you say because we are here to hear from you. We like to give optimum amounts of time for Members' questions.

Dr. Buchanan, I will start with you and go down the line.

Thank you very much.

STATEMENT OF HERBERT LEE BUCHANAN, III, DIRECTOR OF THE TECHNOLOGY REINVESTMENT PROJECT, ADVANCED RESEARCH PROJECTS AGENCY

Mr. BUCHANAN. Thank you for this opportunity to share our views with you. I feel flattered to be included in this panel of distinguished colleagues. I am not currently a member of the Intelligence Community, although I have had considerable experience in this.

I come here representing the Department of Defense, who is obviously a tremendous consumer of intelligence, so I am both a technologist and a customer in this regard. But as it turns out, in my view, we in Defense and my colleagues in Intelligence find ourselves on very much common ground in many of the themes that you will hear this morning, so much that I will have to say can go either way.

In fact, it is I think fair to say that we are governed by the same set of basic circumstances. First of all, the world is still a very dangerous place. There are threats everywhere. It is not the threat we are used to nor is it one we are fluent with, but threats persist, nevertheless.

Second of all, in defense and I think also in the Intelligence Community, we continue to depend on the fact that we are and we continue to be the technological leader of the world and our basis, our underpinning strategy must depend on that technological superiority.

The difference is that these days, as compared to the old days, and I will refer to the old days as any time before the collapse of the Berlin Wall, it is the commercial sector that has been running

very fast. There is where the greatest opportunities may lie in many very significant technologies and we would be well advised to take advantage of that.

Let me give you some background as to how our, in my view, how our intelligence apparatus emerged. In the old days we were looking at a large single target. Our sensors were arranged to penetrate the old denied areas. In fact, the existence of the denied areas has been often claimed to have stimulated our preeminence in overhead technologies.

Our whole sensor suite analysis method was set up for dealing with that target and that threat. Those days are gone. Denied areas have been removed so the whole character of the collection problem is fundamentally changed.

Likewise in defense we have a similar situation. Our military was properly arranged to counter a land conflict in Central Europe, naval conflicts in the blue water oceans and the nuclear peril was one of mass attack likely to come over the poles. That has changed as well, so we are moving to counter that new threat.

I think this viewgraph will depict a very simple picture from my point of view, as a technologist and not an intelligence officer, as to how one might easily look at that problem. What I have tried to show here is the general hierarchy of how information emerges from down below in the sensor category and up into what emerges as decisions and national policy.

I think of these in four general layers where information resides. These four layers are not distinct anywhere but are notional in my mind only, although in many cases one can affiliate specific organizations with those specific areas that have emerged. Between those layers you see the red arrows that depict the general notion of analysis, the work people do in order to get information to go from one layer to another. So anything vertical in the chart I will call analysis. Anything horizontal in this chart I will call communications.

First let me talk about sensors. In the old days our sensors were arranged to be very focused on specific targets and the way in which that was done is no longer terribly appropriate. The particular targets that we were interested in could be singled out in many cases because of specific attributes that were unique to in our case Soviet military versus Soviet civilian or European-friendly civilian. The only apparent signals were signals that resulted from Soviet military systems. So our sensors were designed to be very sensitive even if the selectivity of those sensors or the ability to filter extraneous portions of those sensors was put at a second priority. That is no longer appropriate.

At the second level, the fact level, this is where the raw data that is gathered by sensors is actually put together into single facts that we regard as the lowest level of intelligence. That is where generally, the left area I call context, is largely a matter of our understanding of what individual ones and zeroes and pieces of data may bring to the big picture.

As you begin to aggregate facts together, you get knowledge and that knowledge depends on an ability to grasp previous history, to record it and extract it where it is appropriate, and ultimately the

addition of national policy and national objectives enables us to make decisions that are then transferred to the actor.

This is a very simple picture. I don't mean to insult your intelligence by being so simple. It is a handy shorthand for making several observations. And a couple of them are readily apparent.

First of all, down at the lower level, many of the sensors that we now think are going to be crucial for determining national policies don't even yet exist. For instance, our ability to sense and detect manufacturing, testing and even use of chemical and biological weapons is very, very limited.

That is because in the past it was not a very stressing requirement compared to the very large requirements of nuclear intelligence. I think my colleagues will amplify specific technologies that will go against that, but from the DOD point of view, the CW/BW threat is ominous and we are technologically not well equipped to deal with that.

Furthermore, the whole architecture of our sensors, namely that there were specific sensors located in sometimes very remote places that transmitted raw data back to a central processing facility, is stressed because of the problem that I expressed earlier; we are no longer able to focus sensors in places that the amount of information is reasonable without some filtering on the sensor itself. The people in the business often talk of on board processing and that is the notion that one can take some of the data processing task and push it down onto sensors themselves.

This is a very technologically stressing problem. It can be handled, but it pushes against an additional stress of affordability. If you have many sensors each of which has its own processing, that means you have to replicate these things many times. If they are not cheap, then they become unaffordable, and in this day and age, unattainable.

A second observation is that in the past the threats were characterized by a few very prominent indicators. For instance, it was very easy—it was certainly easier to discriminate between a missile silo and a nonmilitary target because the thing was big, because the threat was characterized by something that had a unique signature. That is no longer the case.

Now the threat is very much intermingled with the military capability. In some cases the military and the civilian capability are the same and that makes the discrimination problem very difficult.

This knitting together of secondary indicators versus the ability to penetrate with single indicators is a very serious problem for us in the analysis of data that is gathered. Ironically, in many cases the most poignant developments are coming from commercial industry, in this case Wall Street, because in many cases folks who are worried about investment strategies that depend on apparently unrelated pieces of data and knitting those data together in order to come up with trends have refined this to a very high level, but we don't have ready access to that in the Intelligence Community.

A third observation I would make, and this is a bit of a difference from the previous situation, is that unlike the old days we are confounded by ambiguity. In many cases, a bit of data that is collected can be interpreted in several different ways that enable and prompt several different strategies and actions that are increas-

ingly at odds with one another. So an ability to collect specific technical information, and I am going back to secondary indications, will become very important and may depend on capabilities that we don't have at all.

The next observation is that in the old model as I describe information moving from the bottom all the way to the top, one depends on a sequence of operations that at least in the current environment takes too long. The philosophy of the traditional mode of collecting intelligence is that first one collects intelligence from more than one source, one merges that with history in order to validate it, and when it becomes validated in the language of the Community, then it emerges at the top and not before that for use in making decisions.

What we need now is an ability to make that flow even faster because if we—we can no longer afford the time delay that it takes between the time an indication may emerge and the time that intelligence must pop out the top as an actionable item.

In many cases this will require new tools for information analysis and information filtering and those tools will take the place of and augment people that are no longer available or could never be available given the amount of information overload that currently exists. This is a computer software and hardware processing scheme and will depend largely on our ability to leverage the current progress in the civilian sector.

But merely being fast is not enough, because my final observation is that unlike the traditional scheme it will become imperative that information be extracted from this pyramid at several layers, not only the top layer. For instance, it will be very important to give operators in the field what was previously considered to be inadequate raw intelligence, given that it was unvalidated in the sense of the analysis process—give it to him in advance even though its confidence may be less than 100 percent.

If one waited until that confidence is raised to a high threshold, the information is so perishable that it can't be useful. The common stream is that in each case I see an opportunity to exploit and extract technology from the commercial sector that may be difficult because we are not used to doing it.

At the sensor level, for instance, we have many sensors that are being developed for environmental sciences to sense and detect compounds and traces of compounds at the few parts per billion that will become crucial to our ability to detect inadvertent emissions in the production of chemical and biological weapons, or in the law enforcement world production of drugs.

I have already mentioned the advances in processing that will occur, the fact that on-board processing is being pushed down more towards sensors. The issue there is less new technology than it is affordability. Because unless we can make these sensors affordable, combined with on-board processing, we won't be able to deploy them and that affordability is the piece of the commercial sector that I think we need to extract.

At the history level, there is a great need for an ability to go into databases that were not designed to work with one another. This is especially important in some commercial aspects; say the banking industry.

The banking industry is very interested in having an ability to network databases that are dissimilar and to protect its own networks from exploitation by others, and their interest is every bit as great as the interest of DOD to protect national security. All these are opportunities in the commercial market that I think we can exploit if there is the will and opportunity.

Herein lies the problem. That is that we are not used to, in the defense sense, working with the industrial and in particular the commercial markets. I use "with" as the proper conjunction. We in defense are very used to the notion that industry works for us.

We specify what we need, that is derived from a requirement, those requirements are met in contracts. In order to extract the kind of technologies we need for the future, we need not only to be able to get those technologies from people not traditionally set up to sell them to us, but to ask for them in the first place. That means we must have a familiarity with opportunities in the commercial market that we don't have at the moment.

Mr. DICKS. Why is that?

Mr. BUCHANAN. It is largely a matter of tradition. It is largely a matter of the way in which we have done business, in which our specifications were met by contractor response. The notion that we could go into industry and muck about, simply looking for technologies that could be opportunities has not been a traditional way that we in DOD have done business, especially in the commercial markets.

In many cases the commercial folks don't want us there. These are trade secrets, the lifeblood of where they hope to make money. The last thing they need is a bunch of interlopers wandering around looking for specific opportunities that they can't be trusted, in their minds, to keep to themselves.

So that sort of barrier between the commercial markets and especially defense markets persists even now. In many cases, even where a very bright and innovative defense expert wants to gain access, he or she often doesn't know how to do that. It is hard to know what to do first even if the intent is there. The notion of dual use may go a long way to providing that opportunity, but it is going to take a long while.

I will defer mention of particular technologies to my colleagues so that we don't get redundant. I know that we agree on most of them so I am sure you need to hear them only once.

Thank you, sir.

[The statement of Mr. Buchanan follows:]

STATEMENT BY LEE BUCHANAN, DIRECTOR, DEFENSE SCIENCES OFFICE, ADVANCED
RESEARCH PROJECTS AGENCY

Thank you, Mr. Chairman, for the invitation to share some ideas with you concerning the new roles for technology in intelligence. Although my background includes considerable work in the intelligence business, I come today as a representative of the Department of Defense, not of the Intelligence Community. But it seems to me that our two worlds have much in common. Throughout today's discussion, I expect several themes to recur. These are the same themes that are confounding defense planners.

First, the world is still a very dangerous place in ways that are neither familiar or predictable. But, second, advanced technology and innovation are still a national strength and should continue to underpin our approach for national security in both intelligence and defense. The problem is that the resources of the past are no longer available. That means that our old strategies for technology development, even the ones that worked well in the past, need to be reexamined.

Meanwhile, our commercial industry has been fighting and winning its own war. Global competition has forced our high technology industry to outrun not only their competitors but also their colleagues in defense and intelligence. We in government must leverage this advantage; our adversaries will.

My central thesis today is that traditional separations between government and industry must be dissolved, especially in the pursuit of new technology. Unlike the adversarial customer-supplier relationships of the past, defense and intelligence communities alike must take the initiative to partner with industry and fully exploit new, mutually beneficial technologies. Failure to do so will poorly serve both the American citizen and soldier.

BACKGROUND

The collapse of the old Soviet regime has profoundly changed both the targets and conditions of intelligence collection. Prior to the fall of the Berlin Wall, we were primarily threatened by massed conventional and nuclear warfare with a single monolithic enemy whose capabilities were reasonably well understood and predictable. Over fifty years, we built up an intelligence infrastructure in which sources and methods were focused on penetration of specific denied areas and gathering information on known (and mostly large) targets: military installations, defense industrial sites, R&D facilities, military platforms, etc. Even with our most sophisticated sensors, hard information was sparse and sporadic, but we were able to extrapolate between the gaps by assuming that the other side was acting rationally (relatively) and towards their own self interests.

Our military was similarly constructed. We assumed that hostilities would be foreshadowed by steadily increasing tensions and preceded by warnings of tens of days. We knew that

conventional land combat was most likely to begin in Central Europe, naval warfare would most likely be conducted over huge areas of deep ocean, and nuclear strikes would most likely come over the pole by ICBMs that would be first sensed by NORAD. Our intelligence apparatus was set up to presage all that and our military was set up to deter it. Of course, there were other worries, Korea, Cuba, the Middle East, but force structure, command and control, doctrine and intelligence were all aimed at the first priority, the Soviet Union.

Five years ago all that changed. A massive land conflict with Russia in Central Europe is no longer a likelihood, naval operations have moved to the littoral, and the nuclear peril is rogue use rather than concerted strike. Today, the threat is greatly diversified, both in locale (now it is truly global) and in character (unorganized, irrational, and unpredictable).

The intelligence community and the military have in common that neither was ever designed to address this kind of situation. Intense pressures for an economic "peace dividend" magnify the problem. Future strategies that simply reduce either of these structures to smaller versions of themselves are clearly inappropriate. Furthermore, it is not even clear that the right elements for the future exist anywhere in the current structure. Here is the quandary: much needs to be done, not merely undone, and the resources of the past are no longer available.

A SIMPLE PICTURE

I would like to offer you a simple formalism that helps me, a technologist, think about intelligence needs and process. Imagine information in four levels, one above the other and each narrower than the one below, centered on some specific issue. What distinguishes various levels from ones below is the increasing focus and sophistication of their information.

In the bottom layer information is in the form of numbers and measurements that have, themselves, little significance until they are put into some appropriate context. At the top are specific judgements and decisions that result not only from careful scrutiny and examination of output from lower levels but the addition of related information, both current (news) and past (history), together with political and military goals and objectives.

Analysis is the process of increasing the value of information from lower to higher levels. Analysis is performed in tiers between adjacent layers using technologies and methods appropriate to the tier. Communication is the process of moving information from one place to another within a single level.

I will call the lowest level in the information hierarchy the data level. Here is where measurements about a situation or an event are first collected, codified, and distributed. Information

comes into this level from sensors, devices designed to translate local reality into images, monitor radio transmissions, record telemetry signals, etc., and convert them into a storable or transmittable form, these days mostly digital. The outputs of this layer are typically referred to as "raw intelligence" and in the community are referred to as "-INTs," like HUMINT (human intelligence), ELINT (electronics intelligence), SIGINT (signals intelligence), etc.

Communication is important within every level, and the rate at which information is moved from place to place within a level is called bandwidth. Technologies for increasing effective bandwidth are critical among the enabling technologies of the future.

Information at the next level is what I call the *fact* level and is formed primarily by combining and distilling elements of raw data from the bottom level into simple truths. Data is "processed" into facts, by discarding the irrelevant and the redundant and associating related elements of data. Here, the task of "data fusion" begins to become important, where the "INTs" begin to get combined to yield facts that could not have been gleaned from a single source alone.

Next higher is the *knowledge* level, in which related facts are associated together and combined with other refined and corroborating information to form "evaluated intelligence." Information at this level results from much more manifold analysis involving interpolation, extrapolation, and deduction as well as the folding in of information external to the intelligence process (history, economics, general science, etc.) Intelligence fusion is completed here. Products are plain language reports and estimates that are aimed at the nonspecialist decision-maker.

Finally, at the top, the *decision* level, intelligence gets synthesized with national objectives into policy and objectives. Classically, this level is the conduit to the other arms of the national security apparatus -- diplomatic, defense, and (increasingly) law enforcement. The flow of information, then, was from sensors at the bottom vertically through layers of analysis and synthesis and finally out the top as direction for action.

SOME OBSERVATIONS

It would be easy to continue elaboration and decoration of this rudimentary model, but our interest is specifically directed at new technologies and the opportunities they provide in the intelligence information process. I can make some immediate observations.

- o Many of the most serious threats of the future require technical measurement sensors that we do not now have.

Most of our existing sensors were designed to collect against strategic targets (e.g. missile silos, air fields, ships, and military installations) and the strategic command and control infrastructure. IMINT and SIGINT (both ELINT and COMINT) will continue to be important sources of intelligence. HUMINT will become much more cost effective, especially as we gain access to formerly denied areas, and it is the only direct sensor of an adversary's will and intent.

Technical measurement sensors were used largely as secondary cues and pointers for other, more direct indicators. These days the cue is becoming the primary (and only) sensor for certain threats. The clear trend is that the emerging field of MASINT (Measurement and Scientific Intelligence) will become critically valuable if new, affordable, sufficiently capable sensors can be developed.

The recent admissions of Iraq that offensive biological weapons were produced over a number of years in a plant that was plausibly justified as a factory for high protein animal feed, highlights the problem. Unlike missile fields, nuclear submarines, and laser weapons, chemical and biological agents, the most terrifying threats of the future, can be produced and even tested completely outside the regard of traditional methods and sources. Furthermore, these threats are likely to move from small scale, covert production to full use without telltale industrial indicators. There are two problems. First, effective sensors likely need to be placed covertly and in-situ to be capable of reliable sensing and discrimination of secondary observables. Second, this means deployment over large areas and in great numbers, meaning the potential for high cost.

Detection has given way to discrimination as the harder problem. To determine with confidence that a small facility is engaged in the production of chemical and biological weapons and not fertilizer requires in-situ sensors able to detect various trace chemicals at concentrations of only a few parts per billion, over a wide area, and at an affordable cost. Instruments to make these measurements are currently laboratory scale but could become as small and inexpensive as microchips if the new technology of micro-electro mechanical systems (MEMS) evolves as expected.

Surveillance techniques that function equally well in day and night, such as Interferometric Synthetic Aperture Radar (IFSAR) and wideband radar sensors which penetrate obscurants like fog, sand, and foliage will be very important. Furthermore, emerging technologies of neural networks and optical processing will augment traditional sensors by providing to sensors themselves a capability for learning from previous experience.

Many other relevant, new technologies are being stimulated by strictly commercial interests. Environmental monitoring, particularly the fine-grain measurement of pollutants in the atmosphere and in waterways, is proving to be an excellent source

for new, cost effective sensors and measurement systems. A second, very important commercial source of sensors and signal analysis technology is the manufacturing process control industry, especially in pharmaceuticals and biotechnology.

- o The old threats had a few, prominent indicators. The new threats are more subtle and can be observed by combining multiple, secondary indications.

'Intelligence fusion is one of our most vexing problems. Whereas the techniques of signal processing are designed to condense information, remove the extraneous data and leave the pertinent, the objective of data fusion is to correlate and associate, combining separate elements of related data so that the sum is greater than the parts. Experienced professionals still do this much better than machines, but the sheer volume of data has increased so dramatically that there is no practical manpower solution for the future. Automation is the only reasonable approach.

The hard problem continues to be in the automated correlation and association (fusion) of dissimilar types of information, particularly at the *knowledge* and *decision* levels. There has been some progress. The techniques of artificial intelligence, although they have been around a very long time, are just now showing utility to real problems.

Ironically, much of the best work in this area is coming from Wall Street. Here, many of our best and brightest mathematicians and computer scientists are developing extremely innovative ways to correlate hundreds of separate indicators to predict long and short term investment trends.

- o The dominant new feature of the intelligence environment is ambiguity.

In the old days, the volume of data that one could collect was not much less than it is today. But the task of distilling significance, particularly in the military domain, was much easier. This was because our adversaries designed their systems to be distinct from others throughout the world. Furthermore, the locations of our primary intelligence targets were fixed and their operational routines were generally predictable. On the other hand, the Soviet Bloc was extremely disciplined and denied us most opportunities to gather inadvertent information.

Thus, we were led to a strategy in which sensors were designed to be more sensitive than selective. We attempted collect everything available and massively cull it in the data level. Low volume output at the data level allowed for straightforward flow through the fact level and a timely product.

In most cases this worked fine; sensor bandwidth was manageable and most extraneous information could be discarded at

the first tier of analysis where the task was still comparatively simple (i.e., able to be accomplished by humans). In the world of the very near future (even now), however, systems are not unique and we will have very little foreknowledge of either location or routine. As a consequence, our very sensitive sensors will be overloaded with information beyond any available bandwidth.

It is hard to overstate the information overload problem. Currently in some of our defense systems, over 90 percent of the information that is collected is never transmitted from the sensor (for lack of bandwidth) or simply "falls on the floor" at the processor (for lack of computer power) and never contributes to an intelligence product. Particularly with remote systems, requirements on power and bandwidth (which go hand-in-hand) must be constantly traded one against the other.

One approach is to incorporate processors into the sensor itself, so that the analysis task is widely distributed. The current state-of-the-art in processing algorithms and processors, at least those that can be deployed together with sensors (on-board processing) are not yet up to this task. Particularly in the case of analog-to-digital convertors and very high capacity random access memories, we are at the limits of technology now.

The next challenge is to arrange for arrays of independent sensor/processors to function together as single collection systems. Such systems could collapse data and fact levels into a single system that would adapt itself to changing tasking as well as new opportunities. But this brings up new challenges in local power requirements (batteries), survival in hostile environments (materials), and probability of detection (miniaturization).

- o Performing validated analysis in the traditional way takes too long.

Most agree that volumes of unprocessed data is seldom of value (and mostly a hindrance) to a potential operator. This was dramatically demonstrated in Desert Shield/Storm when, in an attempt to use raw, national system imagery for bomb damage assessment, battlefield commanders were overwhelmed by data that they could never use. The most correct information delivered too late is also of little value.

As perishable information moves upward through layers, it gains fidelity and value, but as it ages it loses relevance to the decision of the moment. This latency problem will get worse, not better, as the scope and purview of intelligence increases.

Even if budgets were not an issue, current operational time lines preclude continued dependence on human brainpower to push information upward from level to level. We must push for greater automation of the process. The state of technology should soon allow analysis throughout the data level through and much into the fact level to be processed "hands-off."

Here again, commercial industry is already effectively dealing with some of these problems. Systems for voice-recognition and understanding are already replacing commercial telephone operators, office work stations are already taking dictation, personal computers are translating scientific journals from Japanese into English. Image understanding systems are being used to read X-ray mammograms and inspect cell cultures. Advanced computer systems are being used by commercial airlines for resource allocation and logistics planning beyond human abilities. These technologies need not be developed twice.

- o There must be appropriate dissemination of intelligence at every level.

Rapid processing is not enough. In the old "stovepipe" architecture, information enters the bottom and pops out as validated intelligence having been verified and cross-correlated with other, independent sources. Single source information at the fact or even the knowledge level was regarded as "un-validated" and seldom released to the consumer. On the other hand, when the validated product finally did emerge, it was often too general to enable specific actions. Often important details had to be collected all over again.

This is simply insufficient to the new tasks that face us. It is compounded by the fact that there is a desire of the military consumer to favor more autonomy of action at lower levels. More direct communication of intelligence is needed; at the lowest levels the military talks about this as "sensor-to-the-shooter" and it is becoming a central new capability for future combat.

There are two challenges. First, the customer must become educated as to the capabilities and limitations of collection systems and techniques. This will certainly require significant relaxations of classification and access that are certain to make the intelligence community very uncomfortable.

Second, there must be new communications modes which directly link collector and user. But this is an area in which commercial developments are exceedingly propitious. World-wide, point-to-point voice, compressed data, and even encrypted communications are now routinely available through cellular phones and the Internet. The entertainment industry is investing huge sums to develop new wideband data distribution systems (e.g., high definition television) and direct, digital broadcast satellites. These are all technologies which are directly applicable and will be developed far faster by commercial industry than by the government.

- o The security of internal databases and accessibility to external databases directly govern the validity and yield of the intelligence analysis process.

As information moves through higher tiers of analysis, a greater fraction of the intelligence comes from external histories and archives both to confer veracity and furnish context. A very pervasive problem is access to "legacy" databases, those assembled by others (often outside the intelligence community) with little knowledge or even suspicion that they would be used as intelligence sources. Even if not intentionally protected, databases exist in a wide variety of forms that are difficult to enter and use. There is a critical need for development of new software tools and techniques for accessing this information. Otherwise, it will not be available.

We have just touched on the area wherein lie both our greatest new opportunities and greatest hazards. As in the early days of radio and radar, passive collection by and against current information systems is easy. Anybody with a teenager probably knows a hacker, and the computer equivalents of "viruses" and "time-bombs" are, by now, very familiar.

Threats extend well beyond government surveillance and espionage. The international banking and securities industry is vigorously pursuing the critical technologies of trusted networks, efficient data encryption algorithms, and multilevel security systems. Even commonplace commercial organizations are frequently confronted with nearly inaccessible archives after an upgrade to their management information system. The benefits of pursuing a common approach are obvious.

This brings up the much larger issue of "cyberspace" as a completely separate new arena for national military and economic conflict. Perhaps nowhere is this more true than within the intelligence community. In fact, something like a CYBER-INT (intelligence gathered from computers) is emerging, most distinguishable as a separate discipline at the data level, where new sensors and modes of collection must be developed and employed.

It is significant that so much of the jargon in this area is derived from simple metaphors of the physical world. Computer engineers have created autonomous computer programs called "personal assistants" and "trusted agents" which wander computer networks looking for opportunities to capture and retrieve data of opportunity. In defense, other programs called "sentinels" stand watch to prevent or report penetration.

But unlike other areas, I do not believe that new technologies will make the biggest difference in the near term. Rather, the greatest return will be from investments in the utilization and management of existing technologies. This is because vulnerabilities are typically in systems rather than in components and devices. The strategies for both exploitation and protection will depend on systems architectures, protocols, and standards.

SUMMARY

I firmly believe that our continued world leadership depends on maintaining our technological superiority. But, the government no longer has the luxury to do it on its own. We must leverage the commercial world's drive and ability to develop and apply new technology more quickly than our adversaries. This will require throwing away many outdated attitudes and encouraging innovation and experimentation on the front lines.

Mr. WILLIAM P. RICHARDSON. Any questions? My turn?
The CHAIRMAN. Yes.

STATEMENT OF WILLIAM P. RICHARDSON, DIRECTOR, ADVANCED TECHNOLOGY OFFICE, COMMUNITY MANAGEMENT STAFF, DIRECTOR OF CENTRAL INTELLIGENCE

Mr. RICHARDSON. Thank you, Mr. Chairman and members of the Committee.

I have the same vision of being very interested in presenting views on technology for intelligence and I think it is going to be very interesting and important to see what evolves out of this next few years in terms of structure of the Community, and I certainly hope that technology will be the basis for thinking about some of that evolution of structure in the Community.

As a little bit of background on the DCI's interest in advanced technology, about four years ago there were concerns within the Community and from Congress that as the general intelligence budget was brought down that we might sacrifice our interest in advanced technology and preparing for the future. I think actions taken within the Intelligence Community itself and certainly the pressures and interest that both this Committee and the Senate committee have shown have kept an interest in maintaining a strong vision of investing, though fairly small amounts, in technologies that probably won't show great payoff for 5 or 10 years but will give us opportunities to bounce back in the future.

I have had the great opportunity to serve both at the National Reconnaissance Office for four years as Deputy Director for Technology and starting last summer for the DCI as head of the Coordinating Office for this investment in advanced technology by the Community. We are, this week, conducting a complete review of the defense and intelligence programs across the board that are making an advanced technology investment. So I am liable to tell you a lot of what I have heard in the last three days.

The advanced technology investment the Community makes has three major targets. The first is to try and find new intelligence sources and methods. The Community has benefitted from finding specific technologies that made a very big difference on how one could acquire information on things we were interested in, and we want to make sure that we don't miss such opportunities in the future. A fair fraction of our investment in forward-looking advanced technology is in new sources and methods. Probably that is the predominant investment activity because it is the one where science and technology play the most obvious role.

A second area consists of improving the efficiency and productivity of the existing systems of analysis and production control and the management and acquisition of technologies for intelligence purposes.

The third area involves identifying two or three or four intelligence problems that we can not solve today and taking an across the board approach to how we would apply technology to solving those problems. Dr. Buchanan mentioned the BW and CW issue, which is a focus for both defense and intelligence.

There is a similar problem with underground facilities, which are of significant concern both in the defense context and in the context

of understanding the development of weapon systems, hiding of terrorist caches and weapons.

So when we explore advanced technology, we look at those 3 areas as targets for special applications.

Mr. DICKS. One of the major problems we had and these are very important issues, biological and chemical weapons and underground, but one of the specific issues in the Gulf War was the location of the launchers for the Scud missiles which obviously could be the launchers for biological weapons.

Is that a specific—

Mr. RICHARDSON. Yes. I guess what I have taken—what we think about the location of, say, Scud launchers is that to say the detection technology is there. What has been difficult to figure out how to do is to affordably put together a system that can cover vast areas and use technologies to pull it together.

So that is an example of the second area, how do we weld together sources and methods we have to cover large areas. ARPA has some very interesting programs that address that kind of large area management of information. What we look at is the question: are there ways to avoid the problem of having to search for Scuds?

We have invested in new sources of methods to technologically do that. So there is a balance of improving analysis together with infrastructure so that I can take care of large areas and additionally, I can invest technology money in looking for truly new ways of going about this important task.

So, yes, that is one of them.

In those three areas, the balance is probably sources and methods that has traditionally made the Community great, so our predominant investment is there.

There are three broad categories of technology that we think will probably have the greatest effect in a ten-year and out period is what I would like to discuss a bit today: information technologies; materials and fabrication; and biological sciences.

The first of those is a broad category of what I called information technologies. We are talking about the information infrastructure, the number of wires and cables and things that come into our houses today. The ability to link up worldwide with almost anybody—any institution, any kind of data, any kind of processing—is rapidly becoming available to us. If there is one thing that will have a fundamental impact on structure and operation of the Community, it is incorporating those information technologies into a new structure of operation.

There are three areas within that. Telecommunications itself—I think we are almost 95 percent dependent on trying to keep up with the advances being made in the telecommunications industry in offering new services and finding out how to take those services and make them fit the purposes of the Intelligence Community.

One of the things that will soon become very important is collaboration across the Community. As Dr. Buchanan mentioned, there were kind of arrows that went up. We normally work stovepipe on problems, you assign people from the bottom to the top to work on an issue, put them in one place for long periods of time and that is what they learn to do. I think what we are seeing in

the public sector, as a result of telecommunications, is that you probably won't do it that way in the future.

We will probably have areas of expertise spread around the Community and with our industrial and academic partners. We will know where the areas of expertise are and they will be wired together. When a certain problem comes up for a six-week, six-month, six-year period, we will connect people and institutions and data analysis elements together through the telecommunications scheme and manage those elements for a purpose for a specific period of time. Then, when finished with that problem, we will break down and restructure to do a different problem. So telecommunications is the key linkage.

The second information technology consists of information management and storage technologies. I am sure we will hear more about some of those from Dr. Carlson.

Dr. Buchanan mentioned effects of these technologies in the finance industry. Here, massive amounts of information will be ready for use. It will be possible to take those elements of information, overlay on them the proper kinds of queries, that are answering specific intelligence problems, and then to think about sorting through several Library of Congresses in a half-a-day to assemble the information that addresses the specific intelligence problem you are interested in.

It is an investment that says the first thing we are going to do is establish strong linkages to the parts of industry that are interested in the same problem and start to discuss and define where the holes are in the information sciences that support this, how to manage these very large databases which consist of written material, tables of numbers, video, and images. Then how to link things like that together, so that when you ask a question about what are conditions in Baghdad today, you get an answer that isn't just a word description or a picture, but it is a sensible representation of all you know about Baghdad.

So the information management sciences we think are very important and we are trying to start efforts to pull together a community of interest to that, too.

The last of these information technologies is the processing tools, the computers, the work stations, the linkages of those that make your ability to process a Library of Congress possible. There are two pieces to this. In one, the commercial activity is dominant for most of that area.

However, there are things, for instance, in cryptography or in open source analysis where one thinks of information flowing through at such prodigious rates that there is no computer we have today that can solve the problem. We are looking at two kinds of investment.

One target is in truly dramatic jumps in performance of computation for special purposes; where we may say a million times greater than what a current supercomputer can do. The other is in how to take advantage of the installed base of computing capacity in the country.

I don't know how your house is, but my kids have a computer. I have a computer. If I go to the office I have a computer that is

classified, I have a computer that is unclassified. I see screens all over.

There are something like 100 million computers sold in the United States in the last five years. That means these are pretty good computers. The telecommunications infrastructure is going to make it possible to connect all those computers. So if I just look at the government-installed base, there are probably 10 million processors available.

I must admit that mine sits there most of the time waiting for me to type a note. One could think about putting together a system to rent cycles on computers. If we could manage it properly we could send out information, for instance, like open source data, that could be distributed in little lumps over millions of computers, each one looking for a specific thing. We are looking at dramatic improvements to things we can do today.

One other thing I would like to mention. At the end of last year a scientist from the University of Southern California who was a computer scientist took a year off from his computer sciences because he was interested in AIDS research. He went to work in the biotechnology part of the University of Southern California.

The thoughts he had had about AIDS research didn't really pay off but what he realized was that you could use DNA as a computer. He coded a problem into little sections of DNA, poured it in a vat, stirred it, and filtered it under the normal kind of amplification techniques one uses to process DNA and got the mathematical answer out.

That computer, though it consisted of jars and stirrers and heaters and filters, could be shown to perform almost a million times faster than a supercomputer on a particular kind of problem. We are starting some small projects to sample the mathematicians in the Community to understand what kind of intelligence problems might one attack with that.

There have already been some articles in the science journals identifying a class of cryptography problems that this may be effective in attacking. We know that industry will be advancing processing for commercial purposes but there are special niches, like this, where we are trying to make investments to get into the future. I have probably spent too much time on DNA.

The second category is materials and fabrication. The ability to put together materials and fabricate things in ways that 10 years ago would have been impossible. Microelectronics is one. Every time you turn around you find that the portable telephone or the television is shrinking, taking less power, has more capacity. We think that that is an area that will pay off dramatically for intelligence.

In fabrication of large systems and small, there is a tool about the size of a telephone booth that will fabricate any shape a computer can envision in hard plastic in half a day.

The other materials topic (which is much more speculative but seems to have dramatic payoff) is the ability to design micro devices. There is a program in ARPA and a couple of universities have dedicated activities.

The JASON's Advisory Group to Defense and the Rand Corporation a couple of years ago started looking at the ability to make

micro devices. They called it the Fly on the Wall Project, on what could you collect with teeny things.

The MIT Lincoln Laboratories was intrigued by that and thought they might have gone overboard in their assessment of how small. This (shown at hearing) is a paper design at Lincoln Lab done to explore that technology. This is a vehicle that they believe could be made in about three years. It has a miniature television camera on the front.

It would have a radio link in the back, would fly for about an hour at speeds great enough to overcome wind speeds and the camera would provide a thousand-by-a-thousand element picture. They think they could cram everything into things like this, so it will be very soon that we will have an opportunity to put together devices in a size scale we have never thought about before. Collection will be accomplished by devices ranging from large satellites to things that are this size and smaller. So fabrication is another important area.

Last, and in my mind the greatest advances in technology, is probably going to occur in the biological sciences. The understanding of the processes of life and DNA replication and its application in information storage, how one takes information storage and self-replicates devices, the understandings that are being gained in how our living systems work, how your eye works to recognize that something is moving, that this is somebody you saw the day before, that you can bring in dramatically different sources of information and reach conclusions.

If you look across scientific publications of the United States, probably half of our last 10 years has been publications in the biological sciences. Most of that has been investigatory.

I think we are about at the stage where we will be linking the biological sciences to the rest of the sciences in an engineering sense. I mentioned detection of biological warfare materials on chips as an example of that, but there are a variety of those sorts of things.

I believe that the fundamental understandings may be comparable to that of general relativity. I think we will have new tools to use in information processing.

I just went through three days of all the exciting science and technology I love and am probably way beyond what you are interested in hearing.

My final topic is how I think these technologies might affect the Community. Across SIGINT, IMINT and HUMINT as disciplines, SIGINT will benefit dramatically from all these information sources and breakthroughs in computation. They will be balanced somewhat, though, because the same infrastructure that we will be able to use to exploit will be the infrastructure you have to attack and it will probably be pretty much a draw in how much better we get in SIGINT.

I think in imagery, it is likely that the technologies will help that whole process. I think sensing can grow as dramatically as we want it.

The information infrastructure is going to let us do a lot of processing that today is very expensive and I think we will find in 10

years that we can do a lot of things that today look like they overwhelm Community structures.

Things like this, the ability to support agents, feed them information that will help them evaluate things, I think that is where the dramatic impact will occur.

On the structure of the Community, for management purposes the things that make large institutions work will have to remain in the Community, because that is how you build people resources and you maintain large infrastructures that allow people to communicate ideas. The thing to me that will be different is how resources are managed. I think it will be harder for the Community to tell you what their detailed structure will be 18 months from now because they will be reorganizing structures to address the topics of the moment.

You will have collection resources and large infrastructure of information, but as far as how you manage the problems and execution, you will do that probably electronically. The requirements for solving problems will come down, one will restructure who talks to whom about what across institutional boundaries to solve problems and then when that is finished you will reorganize again. It will be a real challenge.

I am a technologist, probably too excited about technology but I think there is going to be great and positive impact on the future of intelligence from technology.

Thank you.

[The statement of Mr. William P. Richardson follows:]

STATEMENT BY BILL RICHARDSON, DIRECTOR ADVANCED TECHNOLOGY OFFICE, DCI'S
COMMUNITY MANAGEMENT STAFF

Good Morning, Mr. Chairman and Members of the Committee. Thank you for inviting me to present my views on the future of technology in the Intelligence Community at today's hearing.

In my testimony today I will discuss three topics. First, I will provide a brief background on my career because this is pertinent to demonstrating actions that Intelligence Community leadership has taken in pursuing technology. Second, I will explain Community management of Advanced Research and Development (R&D). Lastly, I will present my views on enabling technologies and their expected impact on the Intelligence Community of the 21st Century. Most of my comments will be on this final topic as I believe they will be most useful for the Committee's purposes.

BACKGROUND

I am not a government employee nor an Intelligence Community careerist. My entire career has been with a university laboratory, The Johns Hopkins University Applied Physics Laboratory. There I engaged in technology development for Department of Defense programs. I also contributed to Intelligence Community support of those programs by developing intelligence collection systems and analyzing technical intelligence information. I have witnessed the essential role that intelligence plays in assuring our national security.

In 1990, I accepted an Intergovernmental Personnel Act (IPA) assignment to the Office of the Secretary of the Air Force. During this four year assignment, my work included supporting to the National Reconnaissance Office in developing technology. I am currently serving a two year IPA assignment as Director of the Advanced Technology Office in the DCI's Community Management Staff.

During these two assignments in the government, I have been impressed with the professionalism and technical competence of the civilian and military personnel who conduct the Intelligence Community's research and development activities. The same comment applies to the many commercial organizations that support these technology efforts.

MANAGEMENT OF INTELLIGENCE COMMUNITY ADVANCED R&D

Following the breakup of the Soviet Union, there were concerns, shared by Congress and Intelligence Community leaders, that technology investment for the future would be sacrificed as the overall intelligence budget was reduced. To protect that investment in the future, attention has been directed toward the Intelligence Community Advanced Research and Development.

The Advanced Research and Development program maintains the Technology Base for the National Foreign Intelligence Program (NFIP). It is executed with funds individually identified by each separate NFIP program. These funds are used to seek new capabilities and efficiencies. This investment investigates and performs exploratory and advanced development of new technologies. Successful developments provide options for improving current capabilities or forms the basis for entirely new Intelligence capabilities.

The Advanced Technology Office is the DCI's mechanism for providing executive management of the Intelligence Community's Advanced Research and Development programs. This management is exercised through the Advanced Research and Development Committee acting as a "board of directors" for Intelligence Community technology. This committee, which I chair, consists of the senior managers of the Advanced Research and Development programs of each element of the NFIP, i.e. the NRO, CIA, NSA, CIO, CMO, FBI. Senior representatives from the Advanced Research Projects Agency of DOD and the Department of Energy's Office of Research and Development also sit on this board and ensure coordination with their related research programs.

In addition to program-specific funds, a Community Management Account fund is available. These funds are controlled by the Advanced Research and Development Committee and are used to initiate projects of potentially high payoff even if they entail higher than normal risk. This funding mechanism was established at Congressional request.

The purposes of the Advanced R&D program is to provide the developers of new Intelligence systems a variety of new approaches. Not all technology projects that are successful in the Advanced R&D program transition to operation and some, due to the risk inherent in them, do not succeed. This should not be seen as a shortcoming. It is an inevitable characteristic of an aggressive, forward looking research program. Successful technology projects are incorporated by the developers into the full scale development process so that final systems meet particular cost, performance, and schedule goals.

The Advanced R&D program invests in three broad areas. These are: searches for new sources and methods of acquiring intelligence; development of techniques that improve the efficiency or productivity of the intelligence process; and, lastly, seeking solutions to major intelligence problems that are currently intractable.

New sources and methods result from better understanding of the intelligence value of known sensing methods developed outside the Community and from new discoveries in science that provide unexplored new kinds of information.

Efficiency and productivity enhancements are directed at both hardware improvements and in improving the supporting systems and software tools that support the analysis and dissemination of intelligence information. Here the intent is to get more from a given amount of effort.

Currently intractable, important collection problems receive special attention. They become the focus of a multifaceted investigation process which seeks out new solution possibilities from a variety of technologies in a "no stone un-turned" approach. Those technologies that show potential are pursued to demonstration. Examples of currently intractable problems include detection and characterization of underground facilities and the reliable identification of chemical and biological warfare research and production activities.

ENABLING TECHNOLOGIES AND THEIR IMPACTS

The remainder of my remarks will address the enabling technologies and their impact on the Intelligence Community of the 21st century. I should caution, however, that I intend to discuss only the positive aspects of these enabling technologies. These same technologies in the hands of our adversaries, become the challenging intelligence problems of tomorrow.

There are clearly many individual technology subjects that are exciting today and hold much promise for the future. I would like to discuss three broad groupings that I believe have very high potential for the future of intelligence. The three groupings are Global Information Technologies, Materials and Fabrication Technologies, and the Convergence of Biology with other technologies.

1. *Global information technologies*

Information is synonymous with intelligence. Advances in information technology are important to the conduct and success of the intelligence process. The combined technologies of telecommunications, storage and management of information, and advanced processing and computing are critical components of this information infrastructure.

Telecommunications, including the full range of wire, fiber, cable, space relayed and personal wireless linkages and the dynamic switching systems that control them, are all the subject of very substantial commercial investment. It is unlikely that government will have much effect on the bulk of these activities. There are, however, particular niches that are important to the Intelligence Community and can integrate with this massive commercial investment. One such area is very high data rate laser communications. These are very important to the Community and will greatly increase 21st century SIGINT and imagery capabilities. A second one consists of assuring through research and demonstration that the telecommunications infrastructure permits functions important to the Community. These include security and privacy capabilities, flexibility sufficient to carry needed Community information sets, and predictability adequate to perform time critical functions. Just the full evaluation of the capabilities and limitations of various attributes of telecommunications standards requires careful research and evaluation. A third consists of technologies specifically useful in information warfare activities.

The storage and management of massive amounts of data is a challenge where intelligence needs are a driving force. Much research is required to ensure that interaction of automatic and human processing and analysis with such data bases attains its expected capabilities. Each of the intelligence disciplines taps vast quantities of information. Each has information in many forms. SIGINT and Open Source deal with text, imagery, audio, video, and multimedia information types. Knowing how to index, store, retrieve and consolidate these diverse sources is a very large challenge, but one that must and will be solved with next century technologies.

Advanced processing and high performance computing will provide the tools that turn multisource data into intelligence information of value. As tools for the human analyst, they must add substantially to each analyst's current capability if we are to meet tomorrow's demands. A significant portion of our Advanced R&D investment is in this area. Our efforts combined with commercial developments are showing good progress. Automatic text, speech, and video interpretation and categorization are coming within reach.

There are many specific targets for research and technology development in this area. Some intriguing ones include:

- Understanding the proper management practices when teams from different organizations form collaborative relationships for a particular problem and then disperse.

- Understanding the stability of very large networks handling requests from hundreds of thousands of intelligence analysts while sorting and moving prodigious amounts of information.

- Developing effective techniques for understanding the information content of databases for specific intelligence problems.

- Combining hundreds to thousands of thousands of dispersed workstations into groups to attack particular problems in an organized manner.

2. *Materials and fabrication technologies*

Technologies exist today to create materials with specific properties, and to fabricate devices and machines of extremely small size and high complexity.

The greatest impact to date in this area has been in electronics where we see ever increasing performance from smaller and smaller devices using less and less power. In one Intelligence Community project a three year research program has reduced the power required in a complex processor chip by 99 percent.

Two less certain technologies appear very important for intelligence applications. High temperature superconductivity can dramatically improve performance while reducing greatly the size and power consumption of some electronic devices important to signal collection and sorting on both satellites and clandestine SIGINT systems. Nano fabrication techniques will allow extremely small electronic components to be fabricated, essential for a next generation of emplaced devices.

Another important area of materials technology is small power sources, of use for emplaced devices and remote operations. Better understanding of physical and chemical processes is expected to lead to improved performance. This topic was the subject of the first ever use by the Intelligence Community of a Broad Agency An-

nouncement to solicit industry ideas. Intelligence Community needs in this area are currently more stressing than any in commercial systems.

A newly developing materials fabrication area is that of micro-electromechanical devices and machines. There is already a commercial interest in such devices for airbag sensors, inspection devices, and medicine. Intelligence applications envision micro-collection and sampling devices. Initial study work by RAND Corporation and MIT/Lincoln Laboratory have shown that very small flying vehicles (three to four inches) carrying sensors and data relay are possible with minor advances in the current state-of-the-art.

Other applications of this technology include ultra small integrated "laboratories" the size of a credit card. Development of chemical and biological analysis devices consisting of storage chambers, pumps, thermal cycling chambers, and readout sensors are under exploratory development.

A final topic is optical materials technology. These materials are already of great commercial importance in fiber optic telecommunications, CD-ROM, and short range data exchange. They have been successfully applied as acoustic and chemical detectors and as integral elements of smart structures. Concepts are in development that use these materials to simplify construction and check out of space craft and other complex processing systems. Finally, optical materials will be useful for processing signals without resort to electronics. These will have logic and computation functions done by interacting light waves alone and offer very attractive solutions to very high speed signal processing needs.

3. *Convergence of Biology with other disciplines*

As a final technology topic, I would like to discuss the convergence of biology with other disciplines. This area is certainly the most controversial and speculative in my discussion. I believe, however, that it will be of great importance to all aspects of intelligence in the future.

The biological sciences have made great progress in the last decade. This is occurring at all levels of biological complexity, from relating physical and chemical principles to cell formation; to mapping and interpreting the workings of complex processing structures in the brain. As a result, new concepts of sensing and processing are being discovered. Some examples of intelligence applications follow.

Several kinds of sensors are under investigation. In one, particular forms of DNA are arranged on an electronic sensor array. Each location has DNA complimentary to that from a specific disease strain. If that disease strain encounters the particular location, the DNA binds with it and a signal is emitted from that location, uniquely identifying the strain.

Another type of sensor uses an intact micro organism as a complex sensor suite. It detects the antigen reactions of the organism to a wide range of CW/BW related materials in the environment.

A quite different biological application of potential importance is the possibility of using DNA molecules as an information processor. A solution of properly coded DNA fragments can perform the functions of a super massively parallel computer. The discoverer of this technique has actually done computations in this way. For some problems, a DNA "computer" may be a million times faster than a current super computer. Other investigators have shown that the technique can be applied to particular forms of cryptography.

A final biological topic recognizes the growing understanding of how brain components work in higher animals. Real progress is occurring in understanding the principles by which animals see, hear, feel, compare and react. The mechanism of self organization is central to these principles. It is quite likely that electronic application of these principles will revolutionize information processing. We should expect real progress in such topics as speech and image interpretation, autonomous devices, information compression, and self replicating machines.

I have touched on a variety of technologies and each will have significant impact on the nature of the future Intelligence Community.

SIGINT will benefit greatly from the improved network linkages provided by the new information technologies. Information processing based on new principles will make communications analysts many times more productive. Better electronics will make collection gears smaller and of higher performance. Its challenges will grow also. The same technologies will be used by intelligence targets. The outcome will depend on how aggressively we invest in technology for intelligence versus our adversaries. New techniques of information warfare will play a crucial role.

IMINT is likely to benefit overall from the 21st century technologies. Great increases in processing from new computation capabilities and improved methods for image understanding will support improved efficiency in imagery analysis. New collection technologies will provide hedges against denial and deception.

HUMINT should benefit the most from future technologies if for no other reason than that this discipline has received less from technology in the past. The greatest indicator of the future benefit to HUMINT are the substantial trends toward smaller, lighter, less power hungry electronic systems, combined with micro-devices that offer many possibilities for extending the capability of an individual agent. Technology will offer greater opportunities for human participation in the technical collection process and these may be essential because threat technologies may require close-in precision collection of intelligence of all kinds.

MASINT should become more integrated into the fabric of intelligence as new sensor and processing technologies make it more tractable to deal with complex quantitative signature information. The complex data provided by MASINT will be more readily interpreted by improved methods for machine interpretation and presentation.

I see no breakdown of the current disciplines but expect a much greater inter-relationship of them in dealing with the intelligence problems of the 21st century.

One question of crucial interest is whether the institutions of the Intelligence Community can assimilate new technologies at a sufficient speed. In the commercial sector we see the rapid formation of entrepreneurial ventures and partnerships to exploit each new technology niche in the market place. Some are enduring, others make their mark in a short time and dissolve to reform in another configuration. The ability to flexibly reconfigure across normal organization bounds will be essential if the Intelligence Community is to take full advantage of new technology opportunities. We should strive to mimic this proven strength of our economic system. If we are to do this, we must certainly find new flexibility in allocating resources as opportunities and challenges arise. This will present a great challenge to Community leadership and to Congress in managing and overseeing the significant expenditures of the Intelligence Community in a very dynamic time.

As the Committee deliberates on the structure of a 21st Century Intelligence Community, I hope that it considers lessons being learned by the successful high technology elements of the commercial sector. Flexible, entrepreneurial management may be an essential element for staying abreast of technology. Reconciling such characteristics with other forces that demand long term budget and organizational stability presents a great challenge.

The Advanced Research and Development program we have today strives to strike a balance between "evolving" current technologies to their limit and taking significant risk investigating potentially high payoff, new technologies. My experience over the last five years in the Intelligence Community has been that the Intelligence oversight committees recognize the need for an aggressive Advanced Research and Development program, and have challenged and encouraged all of us in the technology sector to maintain that aggressiveness. We are conducting research that will provide a variety of important new capabilities to whatever form the Intelligence Community of the 21st Century takes.

Mr. Chairman, I thank you for your interest. I would be happy to answer any questions you or the Committee members may have.

The CHAIRMAN. Thank you. Dr. Carlson.

STATEMENT OF DR. CURTIS R. CARLSON, EXECUTIVE VICE PRESIDENT OF THE INTERACTIVE SYSTEMS DIVISION, DAVID SARNOFF RESEARCH CENTER

Dr. CARLSON. I have a slightly different background than my colleagues. I work at the Sarnoff Research Center.

One of my jobs is to develop new technologies for the commercial and consumer world. I am responsible for the high definition television program at Sarnoff.

We are now in the preeminent position in that technology. All the other technologies that make up the information infrastructure, I have proposals in DBS communication and interactive super-computers and virtual gaming systems.

That is one hat that I wear. A second hat is as a venture capitalist. At Sarnoff, I have helped spin out six companies over the last five years. We are about to spin out a company to do the microchip so you can do DNA diagnostics on a very small chip in the doctor's office. That is an enormous area of commercial activity.

The third hat is that through the NRO a program was started called National Information Display Laboratory, a program set up to harvest technologies developing in the commercial and consumer side and bring them aggressively into the Intelligence Community.

I have worked with the CIA, NRO, CIA and defense organizations. As part of that, I have become a member of the Air Force Science Advisory Board, and been with the Army to help them figure out how they can take advantage of these technologies.

I would like to look at the problem a little differently today. I agree with all the technologies that are mentioned. Obviously, there are a number of things that are going to happen, but I would like to start with this chart because I think the chart says what the opportunity and challenge is as we go forward.

This chart shows capital spending over the last decade and breaks the world into two categories. The red line is information technologies and the green line is industrial age technology: trucks, roads, the physical stuff that makes up our world. This curve says a couple of important things. In 1991 the curves crossed for the first time, so, in a sense of where people were putting their money, we entered the information age in 1991 because that is where the money is now going.

A second observation is that back here in the 1940s and 1950s, that was the industrial age, and we set up a procurement process and a way of interacting with industry that was consistent with development cycles of industrial age technologies, which take decades. That is not true today.

The third observation is that back here NSA did have significant money on this scale to develop computers and tape recorders and many other really important developments that have propelled the U.S. Intelligence Community. DOD and the Intelligence Community don't show up on this chart anymore. The amount of money they have is relatively insignificant and growing more insignificant every year.

So the question you have asked the panel—where do you put your resources and how do you interact with this new world—is, I think, the right one because when most of the activity is happening outside of the government, when most of the activity is happening around the world, you have to ask how are you going to get your competitive advantage, how are you going to work in this world to harvest those technologies. Lee mentioned the financial community, which I think is a perfect example of it.

It is no surprise that these things are transforming the world, not just DOD and the intelligence world; every business right now is being restructured by the developments that were just discussed. Entertainment is the fastest growing activity in the United States right now and it leads otherwise sober people like Ed McCracken of one of the leading companies to say this. The entertainment industry is now the driving force for new technology, as defense used to be. Ed McCracken, who builds some of the world's highest performance computers, is putting all his money into entertainment systems.

I perceive this beginning to happen in the government. If this is a generalized sense of performance and time, it used to be that the

government developed these technologies, had access and control over them and we had enormous advantages over our adversaries.

But I detect, as I go around the world with my other hats on and look at what is happening in the financial community, the entertainment or medical industry, that increasingly the kind of components that I see in those industries is beginning to exceed what we see in the government. I think that transition took place around 1991 when this curve began—when we moved officially into the information age.

There is an opportunity here, too. If you look at the consumer side of this, what has happened at about the same time is that all the consumer technologies also went digital. Previously they were analog and moved very slowly. Today, now that they are digital, there is this whole host of activities that are attempting to bring literally terabits per day of information into your home.

So whether it be DBS systems or fiber cable into your home, cellular systems and all the new products that are coming about, this is a huge opportunity and one that can be leveraged into the DOD and intelligence worlds.

I would like to plant an idea here, that one of the reasons this is a great advantage is that, as you know, traditional military systems where you build thousands cost millions of dollars. There was nothing wrong with that. Then there was a move to COTS, where you build millions and they cost thousands of dollars. That is a big improvement.

But with the advent of technology being driven to the consumer level where they make hundreds of millions, it is going to cost hundreds of dollars. So I think the consumer technology is going to be a real key ingredient in affordable defense and affordable intelligence, and how you think about gathering the information in an economic way as well as a performance way.

The other benefit of this is, unlike computer folks who abhor standards and want you to buy into a unique proprietary system, consumer folks love standards. There is no business unless there is a standard in the consumer business.

You see in the Telcos and national information infrastructure, there is a lot of gnashing back and forth about how we develop a system if we don't have standards. The consumer wants a standard and it is pushing us in the right direction and that is really good for DOD and intelligence. These developments are worldwide.

This is Malaysia. This is the last generation of technology. This picture tells me a few things, one of which is that people like video, because they are paying about \$1000 per earth station in a country where the per capita income is a couple of thousand dollars. The other thing is that people want their own control. They could have bought one antenna and shared a feed but they didn't do that because they wanted to point their antenna at their own satellite to get the information they want.

The next generation of technology which just happened is through Hughes and called direct TV. It is a digital broadcast satellite system that allows you to use a little 18-inch dish with a set top box and the system costs \$700. It is a portable earth station. It broadcasts 150 digital video channels into your home or office.

Because it is digital, it can broadcast not only video but can also be used to broadcast any kind of data, satellite imagery, SIGINT, download software, logistical information, training films. The market for this is about two billion homes worldwide.

The ultimate cost of that box will be a couple hundred dollars. This system and ones like it will be absolutely ubiquitous around the world. Plans are already in place to extend the service from the United States to South America and to the Far East, and there are versions of this that people are planning on having around the world. So it is a very different kind of infrastructure.

What is going to be built on top of that is high definition. That is one of the projects I work on. The thing that is interesting about high definition is it makes beautiful pictures, but the thing that is most important about it for DOD and the intelligence world is that it is really a standard that allows the broadcast of any kind of information.

The standard doesn't care. It allows you to send high definition images if you want and you can do virtual reality, immersive environments and mission planning, but if you want to use this huge pipe to transport a large amount of information of any sort, you can do that too.

And there are lots of variations on this. The FCC, for example, just opened up two gigahertz worth of bandwidth in a cellular region six miles on a side so you might use wireless broadcast. This is a piece of the equipment. This is a transmitter and what goes on the wall of your house is an antenna this big costing a couple of hundred dollars.

The amount of bandwidth that has been opened here is twice the total bandwidth that is now available in the United States. Two-way interactive digital, you are talking about again many terabytes of data per day coming into the home.

I can go on about many more technologies like this. The point is that if you look at cable systems or terrestrial broadcast or digital DBS or cellular options, the amount of information swamps the kind of information that is pumped around the Intelligence Community. These technologies are going to be key for developing the back-end processing and infrastructure for storage, for transmission, for retrieval, for archiving, research.

When you have access to the next generation of technologies, when you have access to an infinite number of TV channels in your home, the big problem is how do I navigate through them. What happens if you have 10,000 channels?

Mr. DICKS. It is divorce time.

Mr. CARLSON. Lee mentioned the financial industry and I think that is a good model because these folks are basically in the intelligence business. One of my favorite lines is from Bill Gates.

He said if you could predict the future, you could make a fortune, and that is true. But the real trick in business is predicting the past better than anybody else. The closer you can get to real time analysis of information and processing, the bigger your competitive advantage. That is what the Intelligence Community does, too.

They try to work in real time. This Community lives or dies on its ability to make predictions near to real time and as a result, they are putting together communications architectures that use

DBS and teleconferencing and all the tools mentioned, and I think they represent an interesting model for the government to look at going toward.

One of my issues is that as I go around the government I see that there is a schism between the way government organizations are set up and how they are going to interact with these new kinds of organizations in the future. These people do not want to talk to the government. They want to make money. Microsoft, for the most part, does not want to work with the government. LSI refuses to work for the government for all the reasons you know all too well. If you think about the activity becoming more predominant in these arenas, a question is how does the government take advantage of those kinds of developments.

Just to wrap up, I don't want to go into this, but I could give you examples of how these technologies will be embedded in sensing, in headquarters and dissemination that I think will provide a big piece of the backbone. There are a lot of things that have to be done exclusively by the Intelligence Community, but there is an increasingly huge piece of this that needs to be leveraged.

The question then is since these are globally available technologies, what is our competitive advantage? The financial community worries about that.

They may develop unique technologies and put together unique systems, but they work orders of magnitude much faster than you do. The environment is different. They don't have security issues like this Community does.

So the barriers for putting these things in place and working are completely different than in this other world. What we are working toward of course is creating an environment where you or an admiral or someone else in the Intelligence Community can basically have access to the world and flip through those channels and have that same kind of environment. This is where the commercial and consumer world is going.

I have some recommendations. As I mentioned, the procurement process was developed for the industrial age. We are now in the information age. I believe this ought to be a serious discussions about developing a procurement process for the information age.

Second, I think that Lee's programs and others, the ADP programs, TRP programs, the Army Federated Labs program, the NIDL program and others are all experiments in efforts to work more as a partner with industry, work with them collaboratively in a way where they are willing to talk to you and share their technologies with you.

I would encourage this Committee to support and encourage the experimentation of more models to see as a Community which ones work for what purposes. I think there is a whole session that can be devoted to that.

Support commercial-like consumer field trials. There is a huge amount of activity in the commercial world to understand these technologies because they are going to revolutionize all our businesses. We have advanced concept technology demonstrations in the government, but it is different than what the commercial world does. Many times in the government you demonstrate technologies, but in the commercial world you want to understand the market.

You want to understand the needs of your users, you want to understand the cost. It is a very different mind set.

I think there ought to be a change in philosophy and approach to the kind of field trials that you folks support and what you do to deploy these technologies and apply them. Benchmark government systems against the best commercial and consumer systems. I think there ought to be in your mind how does this program, this activity compare against the best commercial practices. It is a mind exercise to begin to develop solutions to this.

What are the right ingredients? When I work with the government and I work as a entrepreneur, those worlds are right now 12 light years apart. The way you deal with people, the way you put programs together, the way you create value, is completely different.

I suggest when you put that hat on and hear programs described, ask yourself, is this moving in the right direction as well as it could? Is this the best practice? Is this the way the commercial world would do this? I worry when I see legacy systems. I was talking with people who say they have put themselves in a real bind because they have all these legacy systems and they are obsolete and can't move on to the best technology.

Bloomberg has developed an infrastructure where this display, he contracts this out and markets it to industry. Instead of saying I have money for you, they go out and they work as a partner to develop products and bring them in and leverage that technology. He wanted to have—in the financial world, real estate is important. You can't have a big computer on top of a desk. So he developed this, the screens, small, low real estate, and every time there is an improvement in this technology he has it first. When you ask what do they sell, he says, we rent terminals. They have a distinctive product that is always on their analysts' desk and everyone says that is a Bloomberg. Come over and see my Bloomberg. That is a very difficult attitude. Those are my suggestions.

[The statement of Mr. Carlson follows:]

THE INTELLIGENCE COMMUNITY IN THE INFORMATION AGE BY DR. CURTIS R. CARLSON, EXECUTIVE VICE PRESIDENT, DAVID SARNOFF RESEARCH CENTER

EXECUTIVE OVERVIEW

The emergence of digital systems at the consumer level represents both an opportunity and a challenge for the Intelligence Community. It represents an opportunity because it can provide unprecedented performance at very low cost with increased interoperability among users. It represents a challenge because it presents new threats, such as loss of security and increased exposure to information warfare, and complicating political and economic issues, such as global access and availability. It also represents a challenge because the rest of the world has access to these developments and the US Defense and Intelligence Communities are not legally, culturally, or organizationally able to respond optimally in such a dynamic world. These challenges demand new models for technology development and insertion if the US is to capitalize on these opportunities.

INFORMATION AGE INVESTMENT

In 1991 the US total investment in information technologies equaled, for the first time, the total investment in all other technologies. That is, information age capital spending now exceeds capital spending on all other industrial age technologies combined. By this critical measure of investment, we entered the information age in 1991. Even more important is the rate of investment. Information age technology

spending has been doubling every 5–6 years while the investment in industrial age technology has been flat for the past decade (Fortune: April 4, 1994, page 77).

Twenty years ago industrial age spending was still driving the US economy. For Defense this was the period of tanks and airplanes. Today information age spending is driving the economy. For DoD and the Intelligence Community this is the age of "information in warfare and information warfare."

The increasing investment rate in information age technologies portends important consequences, not only in our personal and professional lives, but also for the DoD and Intelligence Communities. As Ed McCracken, CEO of Silicon Graphics, has said, "The entertainment industry is now the driving force for new technology, as defense used to be" (Business Week: March 14, 1994).

This observation represents both an opportunity and a challenge for the Intelligence Community. The opportunity is low-cost, high-performance consumer information technologies: the challenge is to use and exploit these technologies in a way that maintains a significant competitive advantage. Traditional approaches will not succeed since the capital investment available from the Government now pales in comparison with commercial industry, a point we will return to shortly.

THE GLOBAL DIGITAL WORLD AND "CONSUMER DIGITAL SYSTEMS"

The investment directions indicated above have resulted in major developments in computing, communications, display, and information technologies. These developments are now being driven down from the commercial level to the consumer digital systems (CDS) level. But the revolution caused by these technologies is not simply the result of these individual changes: each advance in one area compounds the effects of advances in all other areas. The revolution is also due to a convergence of these technologies, which results in the creation of completely new systems. Virtual reality systems are a consequence of this convergence: they will soon revolutionize, for example, mission planning. Both the compounding effect and the convergence are largely the result of digital technology (i.e., "bits are bits"), whether used to represent x-rays, consumer videos, or National imagery.

These trends have already resulted in major technological advances (apparently none of which has been led by the Government). The following paragraphs give a short, albeit very incomplete, summary of some well publicized activities.

In 1994 direct-broadcast satellite (DBS) transmission provided for the first time over 150 digital video channels into every home in the U.S. DBS television is received using a \$700 earth station with an 18" dish. It is the fastest growing consumer product ever. Because it is a digital system, it can be used to broadcast interactive video, audio, and an unlimited mix of data services. It can also be used as a low-cost, portable earth station for other applications, such as the broadcast of financial data, logistics information, training videos, and National imagery.

Interestingly, it is possible today to use this same earth station electronics and the fixed satellite service (FSS) band to provide near global broadband data dissemination. When available the Government could also use the DBS band.

The current DBS systems are simply the beginning of an increasing flood of data into the home and office. This flood of data will far exceed the data rates and storage capacities required by the Defense and Intelligence Community, which used to be pre-eminent in these areas.

Future DBS systems could provide the U.S. which over 1,000 channels of digital video and an unlimited mix of audio and data services. Plans have also been announced to extend DBS offerings over much of the globe. Third world countries are finding this a particularly attractive solution, since it instantly creates a critical element of a modern communications infrastructure without the traditional large investment in physical plant. Because this consumer market is potentially so huge (over two billion world-wide homes), the eventual cost of DBS earth stations will be reduced to just a few hundred dollars.

At the same time that DBS is growing so rapidly, the telco and cable industry is competing to provide even greater choice and interactivity into U.S. homes. Field trials are being held by Bell Atlantic, and many others that would provide an unlimited number of channels with all the functionality of a "virtual" VCR: play, stop, fast forward, and reverse.

Wireless alternatives such as local multi-channel distribution systems (LMDS) will provide several gigabit/second of two-way interactivity in cellular configurations using low-cost 5–7" dishes. Terrestrial broadcast will be converted from today's analog NTSC television broadcast system to provide a full range of broadband, portable digital services to TVs, lap-top computers, game systems, custom set-top boxes, and personnel digital assistants (PDAs). At the same time the FCC is also about to finalize the digital HDTV standard for the U.S. This development will be based on the

emerging MPEG-2 encoding and transport standards. The superior performance of digital HDTV will facilitate a large number of DoD and Intelligence Community applications, from personal video surveillance, to UAV reconnaissance, to life-like virtual-reality, teleconferencing, mission planning, education, training, and simulation systems.

Video and other broad-based interactive services will become ubiquitous. Access to world-wide video networks, private networks, archives of all types, and the application listed above will feed these growing consumer broadband systems. These developments will converge with the internet and provide a rich set of low-cost communications alternatives for both consumer and commercial applications.

US business is also being transformed by these developments. Pagers, PDA's, lap top computers teleconferencing group ware, etc., are just the most visible signs of the restructuring of US business. The concept of the "virtual organization" is becoming real. It is just the start. A glimpse into the near future can be gotten from the financial world, where many of these technologies, including DBS, private video networks, automated search tools, etc., are being used aggressively. The financial world is also significant for the Intelligence Community to study because they too often have similar objectives: to sort through huge amounts of data to glean a time-critical competitive edge.

In addition to the technologies I have mentioned above there are, of course, many more Video and multimedia servers, digital recorders search and alerting systems, GPS, etc., will make additional impact.

INTELLIGENCE COMMUNITY OUTLOOK

For the Intelligence Community these developments have several profound consequences. First, in the 1950's and 60's the US Government's investment in information age technologies was significant. This was the era when, for example, NSA was responsible for key developments in tape recorders, computers, and much more. The result of this was that the Government had intimate knowledge of, as well as first access to, these developments.

Today the amount of money the government has to spend on information technologies is becoming increasingly insignificant. This is particularly true since these technologies are now world-wide developments. Thus, the Intelligence Community and the US Government can no longer be assured of leadership, or even first access, to these developments. In many cases our adversaries will have access before we do. Thus, how do we define our competitive advantage in the 21st century?

Second, the development of industrial age technologies such as planes and tanks, takes decades. This time scale, our ability to out-spend our adversaries and our technological leadership meant that we could stay ahead of our adversaries. At this time the procurement process was well matched to the rate of technological innovation. Today, the rate of change of technology, the movement of investment to true commercial organizations, and the global development of these technologies all make it a challenge for the Government to keep up. A new procurement process needs to be invented for the information age.

It should be emphasized that increasingly the companies leading these developments have little knowledge of or interest in working closely with the Government. They are not defense contractors who are organized to deal with the Government. In many cases leading companies, such as LSI and Disney, have no interest in working with the Government. The barriers for cooperation are too high. Hurdles include security, cultural differences, unique applications, the acquisition process, and even confusion about who to talk to in order to make a sale. Because information age companies move so quickly the Government is often seen as an unreliable partner to these companies. There is also the threat of the inspector general, audit rights, insignificant profit from doing the work, export control, and the potential loss of intellectual property. As a consequence, it can often be a poor use of these company's most precious resource, its people. But increasingly the main issue is simply that the Government is a low-volume customer. The market opportunities the Government represents are too small.

It is not that the Government does not have significant money: it does. But its use often seems fragmented and unfocused. An admonition might be: study less and do more.

For all the reasons stated above there is growing sense that the US Government is falling behind in the understanding and the use of many information technologies and systems. This "gap" is due to a number of specific reasons, but it is mostly because the new information world must work quickly with the best partners to target specific market opportunities. The commercial world has become a much more competitive place. It is not clear that the Government has kept up.

Let me give several specific examples. Today most video is analog. The NTSC television standard is used in the US, and PAL and SECAM in other parts of the world. In analog form video has limited application within DoD and the Intelligence Community, although the power of CNN is now well appreciated. With analog television, resolution is relatively poor and the transport and recording standards can only be used to send and record analog TV: no data. In the world we are entering, video will become a primary data type and because it is broadband and digital, a defining data element for future communications architectures. This is a key point and I want to re-emphasize it: Broadband digital video will be a standard data type for most communications, and soon. To date this observation does not appear reflected in the emerging DoD and Intelligence Community communications architectures.

Another specific concern is "information warfare." Can the Government keep up with this threat? Consider this: Silicon Graphics will increase its computer performance 100 times every 7 years. Historically each factor of 100 increase in computer performance has resulted in a revolution in computing: from batch processing, to personal computing, to windows, to 3-D, to fully immersive, to.... Can the Government, with its acquisition cycles, 25 years plans, security, etc. stay ahead of this field? Certainly the potential impact of information warfare will track these leading developments. The window of time to understand and develop solutions is considerably shorter today and will continue to decrease.

THE ADVANTAGE FOR THE INTELLIGENCE COMMUNITY

These developments also represent an opportunity for the Intelligence Community. Today Government-unique systems, where only a few are made, often cost many millions of dollars per system. IDEX was an example. The move to commercial-off-the shelf (COTS) systems has been a major advance. COTS often means "computer" systems, which are made in the hundreds of thousands and usually cost thousands of dollars each. With the advent of consumer digital systems (CDS), millions of units will be made and they will eventually cost hundreds of dollars. Thus, CDS represents one of the key ingredients in affordable defense. Also, because there is, by definition, no consumer market until there is a broadly accepted standard, this represents a major opportunity for both the Intelligence Community and DoD for increased interoperability.

The Committee may ask, what relevance does this consumer digital revolution have for an Intelligence Community that has already invested heavily in collection systems? The answer is that with the realization of planned upgrades to current classified systems, the advent of commercial remote sensing satellites, unmanned aerial vehicles, and the proliferation of open-source information on open-source information highways, the larger problem will be converting collected data into useful intelligence information. Front end systems will become more of a commodity. Back-end analysis, communications, and display are where the Intelligence Community should seek its advantage. And that is where the consumer digital systems can help.

We have described a world of low-cost digital technologies that are produced by global companies that have little or no motivation to work closely with the Government. Since these developments will be available, "off the shelf" what will the competitive advantage be for DoD and the Intelligence Community over the next decades?

One view, promulgated by Admiral Owens, in the combination of three attributes: 1) Dominant Battlefield Awareness (DBA), 2) a superior "System of Systems," and 3) aggressive use of commercial (and consumer) technologies.

At the meta level this vision is compelling. But I would actually note that all three of these attributes actually requires the best use of emerging commercial and consumer technologies. I have attempted to argue here that commercial and consumer technologies will actually play an even greater role than is often realized. A key for the Defense and Intelligence Communities will be to understand, influence, and deploy these commercial and consumer systems at a more rapid rate. An essential key for making this happen is that you must be a player: a peer that can add value.

THE COMMERCIAL WORLD'S RESPONSE

It might be useful for the Intelligence Community to explore how the commercial world is dealing with these issues. Information technologies are having a transforming effect on most industries. U.S. industry is going through a series of often painful steps to adapt and become more competitive. First is restructuring, which means, basically, firing people. Second is re-engineering, which means trying to figure out the company's core business. Third is bench-marking, which means catching up with world competition (i.e., the U.S. auto industry is now almost as good as the Japa-

nese). And fourth, is creating a vision for world leadership. Newer companies, like Intel, Silicon Graphics, and Microsoft, have managed to skip the first three stages and achieve the fourth. These are examples of companies the Intelligence Community should work with in the future. (One can also ask where the Government fits along these four steps?)

Since these technologies are going to have a transforming effect on most companies, there is increasing activity to understand their use and impact. There are, for example, an extremely large number of one-going "field trials." Basically these trials are to figure out how to use these emerging capabilities to either develop additional competitive advantage or open up new markets.

These activities are not just to demonstrate the technology, but to obtain a detailed understanding to the best user applications of the technology and what the customer will be willing to pay. Relatively little activity of this type seems to be taking place within the Government, and the activity that does take place is mostly focused on technology demonstrations. The Government's perspective should be broadened in the direction of the commercial model for "field trials" in order to have maximum impact at minimum cost.

NEW GOVERNMENT "BUSINESS" MODELS

Based on these world changes, fueled by the rapid developments in information technologies, new Government "business" models are needed to develop, influence, and harvest information technologies for the Intelligence Community and DoD. Increasingly these business models should be based more on best commercial practices. This includes working with the world's best, rapid-typing with the user in the loop, close coupling with the marketplace, extremely short development cycles, and disposability of obsolete equipment and systems.

Often people in the Government claim to be working with commercial industry. But this usually means they talked with someone from, say, Microsoft. Alternatively it means they are working with various defense contractors. Defense contractors fulfill a critical, needed role, but they are generally not at the leading edge of the technologies described in this white paper.

Within the Government there appears to be a growing awareness of these issues and a willingness to perform experiments and make changes. For example, there now exist Advanced Concept Technology Demonstrations (ACTDs), the "Army Federated Laboratory" program, Technology Reinvestment Programs, etc. These programs are all attempts to help close the gap. Without going into detail here, each of these programs has certain advantages and disadvantages for the Intelligence Community.

Another model that has been pioneered within the Intelligence Community is the National Technology Alliance (NTA). The NTA consists of two programs, the National Information Display Laboratory (NIDL), hosted by the David Sarnoff Research Laboratory, and the National Media Laboratory (NML), hosted by 3M. The NIDL's focus is on information processing and display technologies and the NML's focus is on data storage technologies. The two programs are centered at world leading commercial organizations, which facilitates collaboration with the leading commercial companies.

The purpose of these two Laboratories is to work closely with Intelligence Community and DOD users and to help them apply and develop commercial and consumer technologies. The spirit of these programs is to pull these technologies into the Government and to influence commercial and consumer technologies for the benefit of the Government: not to push out Government unique technologies. Unlike "dual-use" programs, these programs also work closely with Intelligence Community users to understand their needs and provide relevant solutions. The two programs have had a wide array of successes and have developed a strong experience base about the ingredients necessary for success in this new era.

RECOMMENDATIONS

Every now and then Government has an opportunity to make decisions that profoundly affect the course of future events. Right now our Government has the chance to seek out applicable commercial and consumer technologies, set standards to guide international technology, and apply the results to unique Government needs. Doing so would be nothing more than the Government reaping the benefits of many years of technology investment. Doing so would also help the intelligence process affordable while greatly improving Community performance.

The programs listed above are beginning to have an impact, but they represent only a small change in the culture and business model of the Intelligence Community. Much has been learned that could be of more general use.

Among my specific recommendations:

(1) There is a deeply held impression that the Government is succeeding in working with commercial industry. I do not believe this is completely true. There is, for example, an increasing group of leading companies that under today's acquisition process have no interest in working closely with the Government. I encourage Congress to validate this impression, and take action to support existing and new models that allow for productive partnership with industry to support the Intelligence Community.

(2) The consumer digital revolution is ushering in new capabilities in collecting, communicating, managing, and displaying information. Architectures being deployed today are destined to be soon obsolete. Earlier I gave the example of video as a data type that will be essential in future architectures. I encourage Congress to support the Intelligence Community in developing a process that allows continuous improvement of their systems, staying current with the best commercial and consumer technologies.

(3) Today for \$700 you can buy an earth station that will receive more bits/second than the average ship at sea. There are many good reasons for this. However, I recommend that the Government use as a benchmark the best available commercial and consumer technologies to compare the performance of Government systems.

(4) Encourage "field trials" that are modeled after the commercial world, where the objective is not just to demonstrate leading technology, but to actually find out what the "consumers" need and what they are willing to pay for it. Throughout this document we have referred to both the Defense and Intelligence Communities. This is because DOD is a primary consumer of intelligence products. Properly defined field trials could facilitate better use of intelligence products in both organizations.

BACKGROUND ON DR. C.R. CARLSON, SARNOFF, AND NIDL

DR. CURTIS R. CARLSON

Dr. Carlson is the Executive Vice President of the Interactive Systems Division at the David Sarnoff Research Center. Dr. Carlson is responsible for Sarnoff's programs in communications, computing, information processing, imaging, video, and displays.

Dr. Carlson started and managed the digital HDTV program at Sarnoff that culminated in the Grand Alliance digital HDTV system under final testing by the FCC for the U.S. Other current programs include satellite delivery of digital multimedia, cable/telco set-top boxes, video servers, MPEG-4, wireless communications systems, computer vision systems, and consumer and commercial virtual-reality systems.

Dr. Carlson has also co-founded a number of Sarnoff spin-off companies. They include: Sensor, a computer vision company based on pyramid image processing; SRTC, a multimedia server company; and Sarif, the first polysilicon display company in the US. He is a board member of these companies. Dr. Carlson is currently engaged in forming several other Sarnoff-led companies.

In 1990 Dr. Carlson co-founded and became Executive Director of the National Information Display Laboratory (NIDL), a "center of excellence" for the United States government in display and information processing technologies located at Sarnoff.

In 1993, Dr. Carlson was named to the Air Force Science Advisory Board and has served on numerous other government task forces, including the ARL "blue ribbon" panel to help develop the Army's Federated Laboratory program.

Dr. Carlson was the recipient of two RCA Laboratories Outstanding Achievement awards. He has published more than 50 technical publications, given numerous presentations, and has over 15 issued US patents in the fields of image quality, image coding, and computer vision. His undergraduate degree, with Distinction in Physics, is from Worcester Polytechnic Institute, and his M.S. and Ph.D. degrees are from Rutgers University. He is a member of Tau Beta Pi and Who's Who Among Students. Among Dr. Carlson's professional memberships include the Institute of Electrical and Electronics Engineers, Sigma Xi, and the Society of Motion Picture and Television Engineers.

DAVID SARNOFF RESEARCH CENTER

The David Sarnoff Research Center, a subsidiary of SRI International, conducts research in consumer electronics, solid state physics, materials science, and communications. It has special expertise in digital imaging; from sensors, to processing, to display.

Sarnoff is a client-supported research and development facility with expertise in software and digital IC design, process and materials research, digital signal proc-

essing hardware and software, electromechanical devices, and displays. This expertise is applied to projects for both commercial and government customers.

Many of the major advances in electronics during the past 50 years have been pioneered at the David Sarnoff Research Center in Princeton, NJ. Originally it was established as RCA Laboratories in 1942, but after RCA was sold to General Electric in 1986, the Sarnoff Center became part of SRI International, in Menlo Park, CA. Developments made at Sarnoff include color television and digital television, high-speed computer memories, injection lasers, liquid crystal technologies, solid state amplifiers for satellite communications, MOS transistors and logic arrays, optical and capacitive video disc systems, Digital Video Interactive (DVI), video insertion systems, real-time image and video computers, MEMs, and much more.

To maintain its competitive position in the Information Age, Sarnoff is finding new and different ways to "partner" with clients to leverage resources and maximize benefits. Rather than adhere to one narrowly defined business model, Sarnoff's approach is to be flexible and to add value to product development.

Examples of partnering efforts include a key role in the Grand Alliance, which is developing a system for digital HDTV; membership in the ARPA Phosphor Technology Center of Excellence, bringing together academia, government and industry to develop advanced phosphor technology; and the National Information Display Laboratory, which is a Government sponsored program to facilitate research between the commercial world and the Government.

Sarnoff is also commercializing some of its own technologies through new spin-out companies. Sensor, the first spin-out, was introduced in 1992 to commercialize computer vision hardware and software, and now has three products on the market. A second company, Sarnoff Real Time Corporation, will target the video server and video production markets. Sarif, Inc. was recently formed to develop and commercialize polysilicon active matrix flat panel displays. Other companies are being spun out in physical security, game software, medical services, medical diagnostics, IR cameras, drug delivery, and electronic advertising.

NATIONAL INFORMATION DISPLAY LABORATORY

The National Information Display Laboratory (NIDL) brings together commercial and academic leaders in advanced display hardware, softcopy information processing tools, and information collaboration and communications techniques to help government users better accomplish their jobs. One element of this is high resolution imaging and displays which are critical technologies identified on the White House critical technologies list. NIDL serves a large number of Intelligence Community and Department of Defense users and, under its dual use philosophy, an increasing number of other government users such as the US Geological Survey, IRS, FAA, Department of Health and Human Services, and others.

In establishing the NIDL in 1990, the government sought to leverage the resources of the world's commercial and university leaders in crucial technologies. Recognizing the dynamic developments in the commercial marketplace, the concern was to take advantage of commercial markets while avoiding the traditional acquisition paradigm, which was slow, commercially incompatible, and expensive.

The NIDL is hosted by the David Sarnoff Research Center in Princeton, New Jersey, a world-leading research leader in commercial and consumer high-definition digital TV, advanced displays, computing, and softcopy tools. NIDL is a distributed laboratory, encompassing many industrial and academic partners who are also leaders in their respective fields. The goal is to obtain the best solution for government needs regardless of location or company. Since no one organization can satisfy the range of requirements of government program offices for information related solutions, the NIDL seeks the best solution wherever available. The NIDL often serves as an agent for advanced research within the academic community for the government.

The NIDL focuses on government users' needs which are often several years in advance of those of the commercial marketplace. One of the goals of the NIDL is to foster research in advanced capabilities in a manner that provides incentives for commercialization. When successful, this benefits government users in future years with commercially available technology and low-cost products driven by the commercial marketplace.

In its short history, the NIDL has a number of significant accomplishments:

NIDL developed the world's highest performance display, simultaneously achieving unprecedented brightness, resolution, and uniformity to permit interpretation of high resolution images (medical or reconnaissance).

The NIDL developed the world's first high-brightness blue phosphor which enabled the development of a commercially available full-color flat-panel EL displays.

Of national significance, the NIDL influenced the development of the all-digital approach to high-definition television that led to the US "Grand Alliance" HDTV system.

The NIDL developed the first standards and procedures for measuring and evaluating the performance of displays.

The NIDL developed the first softcopy quality-control procedures to monitor and maintain the quality of displays that are installed and in use.

The government provides limited core funding for the NIDL. Other commercial and government partners also provide funds and resources for specific applications, commercialization of developed technologies, and research and development of commercially-attractive technologies. The NIDL has a sister lab, the National Media Laboratory (NML), which focuses on the critical technologies of mass storage and data archiving and is hosted by 3M Company in St. Paul, Minnesota. NIDL and NML work closely on a number of information-related programs.

The CHAIRMAN. Thank you. The more we get into this, the more exciting and scarier it is.

Over the years we have certainly seen changes in the Community, from spending millions on a few items, as you had said, developed entirely for government, to being able now to go off-the-shelf. The challenge is that if it is off-the-shelf, everybody else has it too, and how do we best try to exploit what we can do better.

It also brings up the huge question of what is generally referred to as information warfare. You are depending upon the technology; how do I block you from being able to get that. In trying to develop an Intelligence Community for the 21st Century, what we want to recognize is how rapidly things are changing, and to try to stay up with that in what is a pretty archaic system of procurement.

It takes years for a decision to be made. If you make that commitment, while you want to be future looking, also you need to be able to move rapidly to accept and to look at the new technologies that come on virtually overnight. I used to be in the electronics business and twice a year we had a show, and between the January show in Las Vegas and the June show in Chicago, it was like day and night. People got scared.

Your first video recorder cost \$1000 and did nothing and today they do everything and cost \$99.95. If you are providing for a commercial market, the private sector can move quicker.

As you know, there are a variety of groups—the Aspin Commission the most predominant—looking into where we need to go in intelligence. Different things are motivating us. We are really not competing. We don't care whose idea it is if it is a good idea.

Maybe by a number of people looking we come up with some of the right answers. But we don't have a bias in saying, well, the Intelligence Community of the future has to be smaller and has to spend less, so that is the goal. We are looking at the needs, recognizing there is a perimeter out there, but not knowing for certain what that is and how much it costs.

But the challenge we have is that collection was easier when we had a single target and focus. We don't have the luxury of being able to watch every part the world. We don't know where the next hot spot is going to be. How long before Somalia did we know we were going to be there or Iraq or Kuwait or Korea or Bosnia, wherever it may be.

And in order to be able to accommodate the need to provide information, I call it portable intelligence, we have to be able to be very portable—one day, one place and the next day the next—and move very rapidly to provide all the things that come into the final top of your pyramid and that is where a decision is made.

Probably the least portable is human intelligence, probably it is the cheapest, but once you have seen through the technology what is happening in a movement of troops in Iraq into Kuwait, if you have someone on the ground telling you what that commander is thinking, it helps you a great deal. Knowing where to be ahead of time would be a great luxury that we don't have and getting that and analyzing and disseminating it in a rapid fashion with the huge technology explosion that is happening around the world is to me mind-boggling.

To develop an ability that allows us to recognize that challenge and to rapidly adapt is very challenging indeed, and what we have to do I think is to change the mind set that government for so long has had. I think you were extremely challenging in your call for a new procurement process.

That is going to be a hard egg to crack up here but it is one of the things that is very necessary to do or we are going to get left behind. And the private sector has got to be a major player in this because they are going to be the ones that are out there leading the way, driven not by "can I get a government contract today," but driven by what the consumer is going to buy.

Just in government purchasing of office equipment, that process is so antiquated it is not even funny. We are trying to change it, but there is technology out there available that we couldn't even buy because it is not on the "list," at really much less cost. That whole concept and mentality has to change. It has to change within the agencies, it has to change within Defense, within the Intelligence Community.

One other thing. Obviously, I am generalizing, but we will do a variety of rounds here, I am sure. I would hope that maybe you have thoughts about this that you can share with us. The primary objective of intelligence is to provide for the military user but there is also what I define as a civilian intelligence capability. You have got a very substantial civilian role in intelligence out there and in that we don't have unlimited resources and opportunities, we have got to decide which one gets what.

Certainly in technology and certainly in restructuring as well, we can't afford duplicity, but we have to assure what we get is right. In trying to overcome the idea that everybody wants to own their own system, you have to determine how to develop a system that provides information to the civilian side and the military that is all compatible, and where everybody can talk to everybody and we can have a single collection agency or single collector that then disseminates that information to a whole variety of users. It would be wonderful if everybody could have their entire collection, analysis and dissemination capability, but that is not going to be the case.

We have to make sure that we can talk to each other within government, have a major collection system and then a variety of users out there. And technology is going to be what solves that problem eventually if we keep up with it. If we don't, somebody

else is going to and we will be left out in the cold. That is a generalization.

I have questions I want to ask but I will turn it over to Mr. Richardson.

Mr. RICHARDSON of New Mexico. I would like to yield to Mr. Coleman because I have to speak to you privately.

The CHAIRMAN. Mr. Coleman.

Mr. COLEMAN. Thank you, Mr. Chairman.

I find all of the technologies interesting and I think that is a part of what goes on, for any person in the United States. We still have what I consider to be the problem that was raised in the last slide in terms of the recommendations. How do we get to those recommendations?

I recall, as a matter of fact, a high definition television display here—how many years ago? five or six?—where Members of Congress were asked to come and view it. I talked to people in industry who were suggesting that the United States could not fall behind, and I kept saying, what do you need from the United States Government? What is our role going to be here?

Well, we need laws in terms of standardization. I recall there was that question. We talked about the United States vis-a-vis other countries, particularly Japan, whether or not we wanted to be a country that was interested in this technology and continued to be in front so we could deal with it from an economic standpoint for this country.

I left that meeting saying I think that is where we ought to be. Afterwards it had nothing to do with any vote that I cast having anything to do with that issue. In a democracy we have a very inefficient system. It is an awfully good one, we tend to like it better than others, but I've got to tell you it takes a while for us to get to the point where we talk about how we can achieve some of those issues that were raised on the next to the last slide. I think that is where we are now.

In discussing with my colleagues over the years, I have pointed out to them that I have great fears and concern about the direction the United States is going. Every time I turn around we have some vote that says we can't afford research and development anymore. I don't care whether it is the supercollider in Texas or some of the nuclear efforts we are making or some votes we had just this week.

I can't afford that mentality. It scares me a lot. Your first slide pointed out why maybe it is not as important in the information age that we in government play such a key role, but somehow we have to find that relationship between the private sector and the government, and if it is on the intelligence side of it, that matters not to me.

There is no magic in who is and who is not cleared. We can solve those problems. We have to figure out a methodology by which we are involved in that as an issue.

I would ask if maybe you can give us help in addressing the issue of how we achieve that with more specificity even than the slide that showed recommendations. Achieving those recommendations becomes the hard part.

We lawmakers understand from all the years that we have been doing what we do, that the hard part is putting it down and having

everybody talk about it and discuss it so you get it right in a democracy. The chairman is chairman of the Subcommittee on Human Intelligence. I am the ranking Democrat on that. We may have a large disagreement on a given issue, yet we know ultimately we have the same goal. It is how we get there. I am suggesting that perhaps you could give us your more specific recommendation about how we in government can achieve those goals. I just think it is important for us here to understand that and I think, regardless of your basic philosophy about the private sector or government's role in the free marketplace, we still need to have specifics about how to go about it because I am convinced that our government will not be providing future resources—unfortunately in my view at least—in the near term for the kind of RDT&E that we all talk about as being a major component of American society.

The fact is, and Mr. Lewis and other Members can speak to it who are on the Defense side of appropriations, I see some things in transportation that we are not going to do next year that we planned to do. Even the Defense dollars are not going to be available to do the kind of research and development that they planned.

I think that you are going to have a willing and a listening Congress at least, and I think the administration and future administrations, to discuss how we get from here to there. I don't know how we do that in the system we have. High definition television comes to mind; when am I going to vote on that? Maybe the Energy and Commerce Committee had something to do with that. How in our system can we work to that end?

Dr. CARLSON. First of all, when we were doing high definition television we didn't want your help, so you did the right thing.

An interesting thing happened, which is because of the National Information Display Laboratory I run at Sarnoff. It became apparent that the issue of interoperability of data, to be able to take data in a sensor and put it to the troops in the field was a critical issue. Through that relationship with the Intelligence Community, it increased our awareness of the importance of that issue at Sarnoff and we introduced that idea into our proposal to the FCC, and interestingly enough, nobody else did.

That is now an essential feature of the HDTV system for the United States and why I think it has a good chance of eventually becoming the core element around the world. That was an example of a government interest and concern being plugged into the right people who were working on those technologies without intruding on it.

It was someone raising their hands and saying I have a need; have you thought about that. Recently, for example, I was at an industry day for one of our organizations, and I asked the assembled group how many of them were familiar with DAVIC. That is a working group that is helping develop the standards for the information superhighway. Nobody in that room was aware of those activities.

Those are things that you can fix by going back to the individual organizations and changing their points of view about instead of looking inside, looking out. A lot of what I see has to happen has to happen to the organizations. They have to change their point of view. Those are a couple of things. I mentioned some experiments,

the Army Federated Laboratory Program, the TRP program, the NIDL Program, the Advanced Concept Technology demonstrations—those are all I think programs that are moving in the right direction.

I think those programs deserve your support. They may not be perfect and there are lots of criticisms of them, but they are all attempts to begin to develop some kind of a more productive relationship.

Mr. COLEMAN. If I could, let me follow up on that point. That is what I am saying is bothering me. We are not going to do that anymore.

I am concerned about what happens in the private sector after you are involved in these kinds of programs where you are participants, where you have industries—maybe they have become too dependent, but at least there is a reliance on the government's participation.

When we don't do that anymore, that is my concern. You are suggesting an Army program; we are not going to do it anymore.

My concern is that rather than being outward looking, we would be inward looking; in other words, we are not doing this anymore. That is why I am wondering whether or not we don't have to have some other mechanism that has the broad overview of what the government is or is not going to do.

If we are going to say there is going to be \$50 billion annually available for us to deal with this, then let's have a science committee and a peer review. It seems to me we need to have some methodologies that are more like industry and less like a democratic form of government.

That worries me because we are talking about taxpayers' money. What is that role? That is a debate that goes on in the Congress all the time. It wasn't invented this year; it has been ongoing. All I am saying is that is my concern, whether or not we have the methodology to discuss the issue in the right way. Because I think you highlighted exactly that part of the problem that I want to pursue, that we may say sorry, no more dollars. Now where is government's role in that? Is it appropriate that we do zero?

Dr. CARLSON. These programs don't necessarily require a lot of money. They require a different attitude about how you spend the money. They have an attitude about reaching out and pulling in partners, taking the best ideas from ARPA's projects—"projects" in ARPA's name is a key idea and that idea ought to be carried through a lot of other programs that get promulgated.

Mr. COLEMAN. By the private sector perhaps, not the government.

Dr. CARLSON. If private sector happens to run their programs that way. They run projects. They don't put institutions in to do projects. The way to put technology together today in the commercial world is you form teams, you pull the best resources together and solve the problem and get on with it. If you don't do that, you are obsolete.

Mr. WILLIAM P. RICHARDSON. It seems that there is a major investment issue that certainly the government has to manage, the Congress with the administration has to manage in a very formal and long term sense, and that is the allocation of taxpayers money.

Inside of that, though, and I don't know how to do it, but there must be a recognition that the same entrepreneurial processes that work in the commercial sector have to be encouraged to grow within the bounds of intelligence and defense.

There are a number of those things going on. There is a concept called global grid, but it is the same kind of idea, of trying to get the focused interest of intelligence to influence the broad standards, telecommunications and information handling, by spending small amounts of money in concert with what the commercial sector is trying to do to influence standards, to influence the understanding of where important government issues are that are not costly for the commercial sector to incorporate but have to be recognized, and a mechanism established to learn with.

They are not like establishing an ACTD program but of recognizing when you hear us come to defend and describe to you what we are doing, to recognize that some of those things don't look exactly like one foot after another down the road to reach a capability. We have had to include people and ideas in the commercial sector into what we are doing. It is a structure plus entrepreneurship inside.

Mr. BUCHANAN. If I could add, because I could hardly contain myself because we are in such violent agreement here, these are the central points—I am a technologist—if there is a central element that should be at the front of your minds, in my humble opinion, this is it; namely that there is a role for government in technology that is strictly self-serving.

I say that from the point of view of defense in which my return on investment lives. I will pick up two examples.

One is the one you already heard of: high definition displays. I said high definition displays. I did not say high definition television. It is important to have in mind that it is a different thing for government to take upon itself a role to help industry than it is for government to take upon itself to do the things that government needs to do among defense and intelligence.

At ARPA I have responsibilities for many high definition display programs. They often overlap into the entertainment business, but I am not in that business. As it happens, those technologies that may be applicable in the entertainment business will find their way into cockpit and command information control centers on ships in which they will have to be able to function as well in sunlight as at night and have to do all the things for military people that I hope civilians never have to do.

It is in my interest to make sure that I am not only aware of what is being done in the commercial market but to have a leverage to say to these guys, with a little tweak here or there, I can use your technology without developing one on my own.

Mr. DICKS. Are there examples of that?

Mr. BUCHANAN. There are many of those—another one that comes to mind is the one of data storage.

We are currently working on a data storage technique called holographic technique in which one stores memory in cubes of crystalline material a centimeter on a side; it projects holograms into the cube at a density comparable to a VHS video cassette tape. The nice thing about it is you don't have to reel the tape back to get to a different piece of it, so it is random access.

From an entertainment point of view, you go to the video store and get two or three movies on a single cube and it spontaneously decomposes after 24 hours, so you will have to get another in a day or two. That is going to be very important from an entertainment point of view.

Why is DOD interested? If you are interested in missiles that run off and look for specific targets, you need to recognize those targets and it becomes very important to tell the difference between a tank and a school bus. You store the images of a tank taken from all different angles and compare those images to targets that are in front of you on the ground.

The only way to do that is through a random access device. Here is a situation in which I can invest jointly with industry to do something together. I can also depend on those big markets making it cheap, and that is of interest to me these days.

Another example is multiple chip modules. Back in 1961 there was an invention of something called a microchip in which you put little transistors, lots of density. We have now in this country constructed as many—we now make as many transistors in California as rain drops that fall on that State every year.

Interesting crossroads. I don't know what you do with that.

The CHAIRMAN. It is pretty dry out there.

Ms. PELOSI. Would this be in a drought year—

Mr. BUCHANAN. For the whole State.

You could take the chips and instead of packaging them and worrying about wires coming out, you put the chips in a single substrate so I can put it on a single substrate. Very important in defense.

It was because it was so important for us to develop that we began the technology development. Now it has become a very important commercial market in work stations that never end up in defense. We could do that jointly, leverage that. Here is where precise actions on the worker bee part can make a huge difference in the out years.

He mentioned standards. This is a bittersweet argument. Standards are crucial in the commercial industry because—and I need not point any longer—

Mr. DICKS. What do you mean by standards?

Mr. BUCHANAN. It means whether or not you have two or three or 10 or 20 different formats of information on a piece of videotape; say, instead of two, VHF and Beta, you had 20. That means everybody will have to have 20 different machines. Not good from a consumer point of view.

That establishment of a standard, the establishment of a standard such that all computers have the same input and output format so you can connect a computer and printer to a memory device not made by the same person makes sure that industry can sell a lot of things.

It is important for Defense to be involved in those standards to know what is available. In many cases—I know of an instance in which there was a Defense activity that was funded to participate directly in standard setting activities in the commercial industry so that they would know. That was terminated on the basis that there was no return. Where is the system? If you are not doing some-

thing that emerges in a system, we don't want to fund it. It was the mind set that says that we in Defense are the purchasers of stuff. We need do little more than announce our need and intention to buy stuff. Someone will emerge to furnish the stuff.

The fact of the matter is that won't happen anymore because we are not buying enough stuff to make it worthwhile for Dell Computer, for instance, to stay in the business. So we don't have access even in the sense of knowing what is out there, much less to induce industry to work with us.

The CHAIRMAN. What is the possibility of looking at government procurement in somewhat of a different way, and let's say almost providing the venture capital? You think about if you are developing a technology that is a potentially tremendous commercial product but with some difficulty initially—it is much more sensible for a company to spend time on that. Have we ever looked at the concept of putting in some of the venture capital to develop that with an opportunity of repayment to the government if that happens to hit?

Mr. DICKS. But who decides?

The CHAIRMAN. I don't know. To begin to get to some of the applicabilities of commercial equipment that is out there that you would like to get from a specific source—I can see the potential pitfalls of that and political problems and debates on the Floor, and where do we end up putting the money in, but it seems like it might give us a pooling of resources to draw from to accomplish the goal that the technology might be reusable if we could develop a repayment process.

Mr. BUCHANAN. I promised my colleague I wouldn't do this but I will anyway. What you suggest we have been thinking about for a long time. It is the direction we had hoped to move the TRP such that you are leveraging private resources for Defense kind of gains. All of the hazards that you suspect exist do exist and instantly upon involvement in commercial-like decisions, programs like the TRP and others are regarded as industrial welfare reform and that is a problem.

The CHAIRMAN. But this is not something that is totally foreign because NIH does this in developing drug technologies. There is a recognition that there is money going to go in from which there is going to be a public benefit.

Mr. WILLIAM P. RICHARDSON. One thing we haven't done well in Defense and intelligence is identify the effect our past contributions have made. We talk about this new information growth. If you look at some of the basic things that allow that to happen, they are things that we spent money on. MIMIC, the cellular phone, wouldn't exist if Defense and intelligence hadn't made an investment. But there is no connection clearly made.

The CHAIRMAN. Maybe we need to look at that connection. It answers some of the things Mr. Coleman talked about—if there is some potential—maybe we want to put the government in the business of making good investments, and if it is potentially controversial, that shouldn't eliminate us at least looking at that.

Mr. BUCHANAN. You bring up a good point. You brought up NIH and specifically the pharmaceutical business. There is a business that lives and dies on patents. When they come up with a new for-

mula, it is protected by a patent and the patent is a legal instrument.

In that situation you can negotiate a return flow back to the government based on that piece of intellectual property. Many companies don't announce things in patents but hold them as trade secrets.

Many other companies make their money in different ways. The notion is I believe there is no single model to follow. The key, however, is to make it known to people in government that it is okay to experiment, that it is not a bad thing to innovate. If you make the consequences of failure too hard, the only people that innovate and take risks are the reckless, and that doesn't get you what I think you want.

Mr. WILLIAM P. RICHARDSON. A couple of things I mentioned are what Lee was talking about, this idea of being able to take a little risk at the beginning and helping to focus the kind of commercial and academic areas that we are interested in.

Biological computing, that is something that would probably evolve in the academic world over a decade, but I think by spending just a few hundred thousand dollars and focusing interactions with the academic community by explaining real problems that people are interested in, whose solution might use a DNA computer, will speed up the process. The NIDL, the government investment in that is very small but it portrays a vision inside the government of things that haven't caught on in the commercial world. The scale and scope is part of what I think we offer to the commercial sector. The idea that MIMIC could be done opened windows and encouraged us to do that.

The CHAIRMAN. Mr. Lewis.

Mr. LEWIS. Thank you very much Mr. Chairman.

The line of discussion is interesting and very exciting I think to all of us. I want to follow up briefly on Mr. Coleman's line that in introductory comments I think each of you alluded to, the fact that industry doesn't want government to know that they are out in the commercial sector appropriately developing their marketplace for their consumers and their future potential for growth; yet in this very complex world many of us believe that this is a time when government needs more and better information and the challenges of manipulating that information for users is, to say the least, difficult.

Under those circumstances, do you have some ideas for us as to how government, beyond some of these things you recently mentioned, how can we in this complex circumstance and shrinking dollar environment better stimulate industry to participate as a partner with us? One might idealistically suggest that we should develop a process for tapping their patriotic spirit, but beyond that there must be other incentives.

Mr. WILLIAM P. RICHARDSON. Tapping the patriotic spirit, one of the things that we have been doing in the Intelligence Community as part of trying to get on with this advanced research for intelligence, it is very tightly closed about our deepest wishes. We don't normally go out to industry and explain those.

We have expanded the scope of advisory services to advanced technology in intelligence. We have done it—typically we have ad-

vice from bodies like the JASON Group, senior academic people. We have Defense Science Boards with large policy scope.

We have recently developed a board of advisors just on advanced technology. We sought to operate in an entrepreneurial fashion and asked them what they are thinking of doing. We invite them in to hear our deepest wishes about intelligence. They are willing to share ideas and visions. But, I think the real thing is they want to share with the government but would like to share as equal partners, not with us saying, come and tell us all you know and we will go away, and if there is anything we care about, we may call back.

There is a pitfall to us in that Congress will sometimes look at our activities and say, "you have an awful lot of advisory committees." It is difficult to show exactly what each does. But it opens the heart of American innovation, and the commercial side does care about participating, but they want to participate in a close coupled manner.

The DCI has four advisory panels. Is that a good thing? You have to listen to our reasons. I have been impressed, we have people in that sense that are leading emerging industries.

Mr. LEWIS. They have a critical need to know, shrinking dollars, complex world, a gap between the private sector and you.

In another venue I have some responsibility over NASA's work and their science programs and NSF is within the same venue. What is there that we can tap? You are saying or responding to my desire to stimulate those organizations to help us with this interplay; what would you say?

Mr. WILLIAM P. RICHARDSON. It is harder because I don't know as much about how they work and their current constraints.

With respect to NSF and NIH, we understand that typically for intelligence and technology we look within the government, to NASA and to DOD as places where we have to have a close relationship to capitalize on the government technology. We are realizing that NIH has more importance for the future. We are going to have to open mechanisms of discussion about new intellectual activities in life sciences that will be important to intelligence, to get information from people where we have a bad heritage from the past. Intellectually important things are happening which we must understand.

Mr. BUCHANAN. I am going to try to draw my commercial colleague into this fray a bit.

When I ask people in commercial industry what I can do to stimulate their greater participation, they will typically come back with a single question for me. It happened recently at a breakfast with a fellow named Michael Dell, Chairman and CEO for Dell Computers. I have learned to hate the individual, since he is only 29-years-old.

Nevertheless, he gave a succinct answer, and that was what is in it for me. Now I replied the same way you might have, namely that patriotism and national security was a generally good thing, and he ought to be happy about helping.

He said he is, but what is in it for me? There are several things that are in it for him. Where the government is willing to come in

and share the cost, defray the risk and thereby increase the return for a very risky investment for him, that is a good thing for him.

Where the government can come in and offer a market, perhaps not big but perhaps sustainable for a new technology until it catches on in big commercial way like multiple chip modules, that is something for him. In many cases what we in ARPA do—we work mostly with industry and not mostly with government laboratories—much of what we do is brokering.

Much of what we do is knowing the state-of-the-art both in the commercial and defense industry and being able to tell a company that this is an idea that has been done before and here is how it didn't work out or this is really new and worthy of your further energies.

It happened most recently with Dupont. Dupont has a billion-and-a-half a year R&D budget and they wanted to participate at the level of \$400,000 or \$500,000. I couldn't understand why they bothered.

They said, we are interested in the relationship that we can have with ARPA on an ongoing basis so we can bring ideas to you and get a separate assessment. That works both ways. He gets an assessment; I get the visibility.

But it is this mucking around that is so important. When you stop mucking around, when you stop the free interchange as you do when procurement rules come up, you get in trouble.

We are trying to get them out into government and industry. Many were provided by Congress. The most recent was our "other agreements" authority, which is our ability to do business with business in a way separate and aside from the Federal acquisition regulation.

It can only be done in research and development or slightly above that, but it eliminates the very big impediments to commercial enthusiasm. I said enthusiasm because it is not a legal prohibition, it is a mental prohibition.

They are deathly afraid of Bayh-Dole, the law that requires that the government take back fully-paid-up license rights on any technology that is obtained through a government investment. They are deathly afraid of Bayh-Dole because they are afraid that somehow the government and the provision exists so if the government would ever want to do this, it could take a technology like this one that emerged from a government investment and give it to some other company.

This is their family jewels. They don't want to risk that.

Second is the risk of prosecution for antitrust. They think that any partnership that might emerge between two companies would end up in antitrust prosecution and treble damages. There must be ways to show them that this is not a risk and to show them there is something in it for them. Do you agree?

Mr. CARLSON. I do. It is terrifying; you walk into one company after another and they bring their auditors in and tell you they want nothing to do with the government, for those reasons. The emphasis at ARPA that there be a defense need when you start going out and forming programs with commercial industry, it can get dicey because one program that is selected might offend somebody who is not.

ARPA usually focused on the military side of the equation. I think the Intelligence Community could do that as well. There are lots of legitimate concerns in this room where you could use the same argument and stay out of trouble. You want to push the state of technology, and if you stay in that arena it is fairly apolitical at some level.

A point I tried to make before is that it is an issue that is not going to go away. It is going to get to be worse. Unfortunately, I don't know the answer.

In the future, whether it be bioengineering or information sciences, increasingly it is going to be people in a part of the world that don't want to talk to the government who are going to be doing the work, and how do you somehow form connections with them?

The things that Lee talked about, I agree you do those, and that is the right way to think about them. We at Sarnoff think of ARPA already as an investment banker with us to do the early predevelopment work on lots of technologies we do. But there comes a point where ARPA is not a good partner, where if you are a venture capitalist they look at ARPA and say you are not reliable. Your program may be cut. My company will be destroyed if I am banking on you to support me. It is nice, but.

But in the future there is a problem, which is when all of these technologies that you want to deploy are out there and you don't have ready access and understanding of them, I think that is an issue for this Committee. I wish I knew the answer. I don't know the answer to that.

Mr. LEWIS. Maybe I could ask a question that would shift you in a direction I would like to have you go.

Admiral Owens articulated his vision of dominant battlefield awareness, win by total knowledge of the environment. Shortly after that General Clapper spoke on the inability of the Intelligence Community to be all things to all people, in essence to know it all.

Would you comment on these competing views, the ability of technology relevant to dominant battlefield awareness?

Mr. CARLSON. I don't believe there is a contradiction there in the context of what Admiral Owens wants to do. There are three parts to his—Lee said you have more information about the battlefield than your adversaries so that is a good place to invest your money, those sensors that will gather the right kind of information.

The second part that he advocates is a system of systems. When you have gathered the information, our competitive advantage can be gotten by putting together a system that uses that information better, more aggressively, more competitively than our adversaries.

In my presentation I was trying to say, benchmark what that system looks like against the best commercial practice, because you may think you have a unique system and it is behind the green door, but if you were in space you might be able to do something which is very competitive. The Admiral understands that unless we can find better ways to bring these technologies into the Intelligence Community, we won't have the competitive advantage that we need as we go forward.

So I don't think there is a contradiction there.

Mr. DICKS. On that point I don't think it was all bad—we are having financial difficulties in the Federal Government. We are downsizing. I think—you show this chart of the capital investment in the information age.

There is a tremendous amount of work being done, maybe not necessarily on weapon systems, but on things we might be able to winnow away and take and use. The thing that troubled me about your presentation is this notion that somehow the people in the government aren't aware of or don't know about these systems. Do you feel that you guys are aware of what is going on in the private sector?

Mr. WILLIAM P. RICHARDSON. Just the three of us sitting here, the National Information Display Lab is an example of a government-industry partnership that is a mechanism to close this. One of the reasons NIDL is here is because the government is trying to do some of those things. There are limitations, and it is better in some places than in others, among NRO, Defense, FBI and the telecommunications industry, in standards for speech privacy, across the whole range of things that are going on.

Essentially, it will end up with demonstrations, with industry clued in, from a seamless mechanism for having privacy in home conversations to multiple security level traffic going over the cellular phone. I think the real issue is the completeness with which we do it:

The infrastructure will be 95 percent based on things that are commercially-driven. I think the interchange—it is a lot more priority than it is in Curt's mind, probably. Maybe that is because I don't see what we are missing.

Mr. DICKS. We are investing a lot less at the Federal level. We are still spending in Defense \$39 billion a year, not all basic research, but across the board. A lot of that is tied to weapon systems.

That is still a significant amount of money. Not near what you are doing in the information age in terms of capital investment, but that is not insignificant. What are we doing in the Intelligence Community?

Mr. WILLIAM P. RICHARDSON. The real issue in intelligence is our development has been going down. We are not investing in the big development but in R&D, reaching out in new technologies, making connections to things that industry is advancing. We have preserved that over the last five years.

It is not a large investment. Somewhere between three and five percent of our budget at the 1990 level has been invested in this advanced research and development, and that has been maintained. I think we have become more aggressive in openness with industry to leverage things beyond that level.

Mr. CARLSON. Let's hear Lee's view.

Mr. BUCHANAN. In my view, we are to a point where innovation is more important as a combining of new things than it is the new thing itself. A high definition display in and of itself is likely going to have an impact based on the way it is used. At the turn of the century the revolution in affairs in naval warfare was the dreadnought and there were a number of innovations that contributed,

none of which would have made for revolution, except they occurred in aggregate.

Mr. DICKS. Today it is the B-2 bomber, with all due respect. You are saying when you combine stealth with enormous range, enormous capabilities and precision-guided munitions, in other words being able to take all of this intelligence, target it and put that weapon within five or six meters of the target, there are people who still need to be educated.

Mr. COLEMAN. We won't have the money to do that.

Mr. BUCHANAN. As much as I would like to follow this line—

The CHAIRMAN. What does the administration think about that?

Mr. BUCHANAN. I would have to check back.

Mr. DICKS. Bring all that together. If we can have in that cockpit a radar that because of the UAVs, the information goes through a satellite, goes to a cockpit, you have detected the Scud launcher, the B-2 can knock out that Scud launcher, I think that is what you are talking about.

Mr. BUCHANAN. That is what Admiral Owens is talking about.

I would like to say the connection between the banking community and its requirements for secure and pervasive databases and the Intelligence Community is only made in the old way, by serendipity. There needs to be a better way. Not that we so much increase visibility into specific technologies, because we do that pretty well, but it is the broad array of opportunities that we are not seeing because we are on the other side of that fence, and that is what has to change, in my view.

Dr. CARLSON. I agree with that.

Mr. DICKS. Obviously it takes you 15 years to develop a weapon system.

Mr. BUCHANAN. It doesn't have to.

Mr. DICKS. That is what the reality is and that is because of the government. It is not right and we have to change it, especially with the information age and all that equipment that we could be bringing in and utilizing now. Even during that 15-year-period you can still infuse technology as you go along. You have block upgrades, a block one, two, three, I think of all the things we did with the tank to improve it.

Dr. Carlson, in this revolution of information, shouldn't that be a high priority, to be creative as we develop these systems, to infuse technology as it comes, or do we need to reduce the time frame, get the government out of the way so you don't have to do it in incremental fashion?

Dr. CARLSON. You have to shrink your time frame.

Mr. DICKS. If we do it in the black, it takes five years, but in the open it takes 15 years.

Mr. WILLIAM P. RICHARDSON. From a technologist point of view, we will be achieving dramatic increases in collection and there is a concern in the Congress about whether we will be able to process the information. We can't process the information now.

I think the point is an important one. The information technologies are advancing. Every three years they double or triple in capacity. By the time we build and launch that satellite and by the time its life ends, we will have 10 generations of processing advancement.

If it is long term, we have to build in more capacity, because it will take advantage of four or five generations of improvement in the technologies before the end of life.

Dr. CARLSON. There are lots of things that are going on that are good and I tried to mention them, and the things Bill mentioned are things that are moving in a positive direction. But if you want to make an impact with this new world, you have to add value.

It is good to invite people in. That is the first step. But they are not going to pay attention to you unless you can work collaboratively with them, what is in it for me.

The reason ARPA works is because there is a financial incentive and technological value incentive. Oftentimes in other parts of the government, you don't see that kind of a relationship and as a result a lot of the people that you would like to get the attention of won't pay attention to you.

Mr. DICKS. Is NRO a good person to work with?

Dr. CARLSON. On the scale of the commercial world?

Mr. DICKS. Compared to ARPA?

Dr. CARLSON. Compared to ARPA, they are different. ARPA is not perfect.

It is the government we are talking about, so they are all—it is a problem because none of these organizations are, again, completely reliable in the sense of the business world, where you shake somebody's hand and you do a deal. There is politics and budgets and all kinds of things that happen.

Mr. DICKS. I would yield to Ms. Pelosi. She has to leave.

Ms. PELOSI. Thank you.

I was interested to hear what our Chairman said about the government profiting from some of these ventures and when Dr. Buchanan mentioned the banking industry as an example of something, I was recalling my days on the Banking Committee, Mr. Chairman, where we were fond of saying that the banking community, the bankers like to nationalize the risk and privatize the gain. Here, in some ways in the Defense budget we think they would like to nationalize R&D and privatize the gain.

I would have thought in light of all of that, that this new Congress would have loved Dr. Buchanan's office. We were very disappointed of course, for many reasons, in the rescission bill. One main reason was the technology reinvestment project rescission, and I just thought if Dr. Buchanan might tell us what impact that rescission would have on his technology reinvestment project and what impact it would have on what we are talking today about public-private partnerships.

Mr. BUCHANAN. Thank you. It gives me an opportunity to say two things.

The TRP as a program itself is important to the local task but it has a bigger impact than that. The effect of the rescission, and if the dramatic changes that you are going to see in 1996 come true, is that the TRP in and of itself will likely cease. That is too bad for the program itself and for the efforts that it found.

It is even worse in my view for the bigger context, the notion of saying it is not okay, Mr. Department of Defense, it is not okay, Mr. Government, to think about partnering with industry, because the experiment that you conducted in doing that is not to our lik-

ing. And although we can all understand the various nuances of why that has happened, I think it is important that if we are going to move in a direction, there needs to be some vindication of the concept that it is okay for government and business to strike a deal that may be outside the traditional bounds. That I think is the greater misfortune.

Ms. PELOSI. That is pretty bad news. Do you see any other way in ARPA to pick up some of the work of TRP? Maybe for the record you could say what the mission of TRP was. I think it is a big loss and in light of the questions that were asked here about the private and public sector—

Mr. BUCHANAN. The TRP has been given lots of missions that it never really had. Among them was defense conversion, which it was not. Among them was industrial competitiveness, which it was not. Among them was this venture capital role, which it was not.

It was to explore the ways in which commercial industry, in particular, and defense industry could partner together to give the DOD and I think in most cases, not many, the Intelligence Community as well, the new technologies that it needed, and it was based on the observation which I continue to believe in that in many new technologies, especially the information technologies, the greatest innovation is going to come from the commercial industry. I need to be intimate with that industry.

There were several features of the program that were different from other investments that ARPA makes. One was the requirement for partnerships. Partnerships are not subcontractors. Partnerships mean that various people come together for mutual benefit sharing the risk in ways that are not vertical, but horizontal.

This is a new way of doing business for the DOD. We are not used to that. We understand contracts and subcontracts. We don't much understand partnerships. As a matter of fact, there was no legal mechanism by which we could write a contract with any but one entity, and then they would subcontract. That was one of the many beauties of the "other agreements" authority that we were granted.

Second, there was a requirement for cost sharing, in all cases at least 50 percent of non-DOD money. It was influential in doubling our money, but more importantly was the idea that it put on the part of commercial industry a participation in the risk that I couldn't get any other way. If a technology began to go sour, if a development was not going to happen as scheduled, then there was a constant reassessment, and in most of the cases they walked first because their investment wasn't yielding a return that they predicted, and they are very much interested in that return on that investment.

Third, it was completely competitive, there was no selective source. Everybody had to compete at one time.

And fourth, dual use. We had to get something out of it. That is distinctive from ADP. I am interested in these. In each deal I am going to get something and when the something that I am going to get goes away, I am going to quit investing.

We were trying to reinvent a new system. General Motors found itself in a strange situation several years ago in which it was no longer competitive compared to the Japanese and it thought about

adopting lots of new methods for doing business. It decided that the approach that it would incrementally move in that direction was never going to get them there.

So they invented the Saturn plant, all new everything. That is what they had to do to change. The TRP was our first attempt at a DOD Saturn plant.

What is the cauldron by which we can determine which of these new approaches are worth pursuing and which are not? Some are clearly not and some are, but knowing which are which is very important and we have lost that cauldron.

Ms. PELOSI. That is unfortunate. It sounds like the kind of program that would appeal to the new majority in terms of sharing the risk in a public/private partnership.

Mr. BUCHANAN. There are real issues that I appreciate.

Mr. Dicks touched on the notion that we could make investments and reap the profits and make it self-sustaining. We worked on that. Here is the problem.

If you require that this is a self-sustaining fund, for instance in a venture capital way, if you want it to replenish itself and go always without further infusion, then you put on the requirement for any investment the requirement for a reasonably assured return.

Otherwise, you are going to lose all your money, which means that likely you are going to color the selection of your investments away from those that are the high risk, high payoff things important to intelligence and Defense, and more towards the things that are going to be assured to reap the return in the outyears.

That does not do what you need to have done. You need to have this ability to fail technologically on occasion, and a reduction of risk is inherent in a requirement for replenishment. But aside from that, the general model I think is the right one.

Mr. DICKS. Picking the winners and losers, that is where I believe in dual use technologies like SEMITECH, which is under assault, where you had the industry investing with the government on basic research and how you move the whole industry forward might be of some interest; but in some of these advanced areas to try to keep the U.S. in a competitive position.

Mr. BUCHANAN. I am in a much more comfortable position than my colleagues at Commerce because I pick winners and losers based on the number of people that don't get killed in a war when I choose right. I am looking at defense capability as the ultimate measure, and that is something I know something about.

Ms. PELOSI. Thank you. Thank you, Mr. Chairman. If I may, Mr. Chairman, Doctor, when you were talking about the raindrops and the chips, is that infinite or do you have an idea how many raindrops there are?

Mr. BUCHANAN. That calculation was performed by somebody with much more time than I have.

The CHAIRMAN. Mr. Lewis, more questions?

Mr. LEWIS. No, thank you.

The CHAIRMAN. Mr. Dicks.

Mr. DICKS. Let me yield to——

The CHAIRMAN. Let's try to hold it to some kind of time frame.

Mr. Coleman.

Mr. COLEMAN. Go ahead.

Mr. DICKS. Let me ask you this, Dr. Carlson.

Do you think there are things we could be doing in weapons or intelligence systems today that we are not doing, that we are not using the most advanced technology in our national technical means or in our most advanced weapon systems?

Dr. CARLSON. I think there are examples around the Community, yes, where that is—

Mr. DICKS. Could you describe a few things you think might be done to various systems that we ought to know about?

Dr. CARLSON. Well, we have a program where we are working with NSA, for example, on creating what we call the information network or infrastructure for the future. It is interesting when you walk into NSA, which is a powerful, important organization, that there are rudimentary communications tools that are not in use in that organization and that are widely used say in the financial community. And there are various reasons for doing that, but they are struggling—

Mr. DICKS. Excuse me. NSA, and I am told the same thing is true at CIA, too.

Dr. CARLSON. Less there.

Take the DBS example, dissemination of information which is already being used by the financial community. That is not being used right now—in fact, it is barely being tried out, never mind not used.

I think for dissemination, it is a technology that could have an impact on how we think about disseminating information. So there are examples like that, which is why I think there is a gap between what I see on the commercial side and the government organizations.

Mr. DICKS. These are inexpensive systems—is it because people say policy is changing every two or three years and the government can't procure that fast, incompetence, money?

Dr. CARLSON. Money, procurement rules, I think the culture of the organizations and looking in as opposed to looking out. It is a compounding of all these factors I think that tends to slow down the process and make it more difficult.

Mr. DICKS. Mr. Coleman, I yield.

Mr. COLEMAN. Thanks a lot. I think there are huge advances for us from the government side for the taxpayer if we can better utilize the technologies that are there in the private sector. I think that you have made that case today better than we are doing.

I guess what I would ask if anyone has an interest to please communicate with this Committee. I can assure you I will be happy to bring it to the attention of my colleagues, not just on this Committee but in the Congress, on methods by which you think we can better achieve that may require statutory changes.

We can begin in a limited way of doing that so they may apply only for those things we feel should be classified. There are lots of ways to skin that cat.

I don't think we have to make it all encompassing. That will alarm our colleagues. I think that there are some suggestions that I would like to have to permit us to do that.

The idea of collection then becoming a huge problem for dissemination of intelligence, that to me is once again one of our major is-

sues. From all of your statements, I noticed you pointed out the commercial industry is dominant, that consumer digital systems can fill a large part of the need. I think, therefore, maybe significant changes can be achieved by the Intelligence Community, the defense community in a very inexpensive way if we are able to utilize what may be already there.

That is the kind of message I want to get to our colleagues; that is, tell us, if you wouldn't mind doing a paper or a letter, give us some ideas about that, because you deal with these issues in an interrelated way every day or have the ability to do that. Tell us what we need to do legislatively to fix it.

I understand there is another side. You say there is a team of lawyers coming in. I am a lawyer. I understand why they are walking in. You guys get in trouble.

Part of our job is to see that you don't get into trouble. It has to be a fair system, one that doesn't favor one company over another. There are a lot of issues. Tell us what we need to work through. There will be enough of us looking to see that all sides are represented at the discussion, but that I think needs to go forward.

I will say to my chairman, he and I having served on this Committee for a few years together, we recognize I think our role and responsibility on this Committee to have influence on other committees of the House, including Energy and Commerce and others. That is a part of the role and function in fact for creation of this particular Committee.

It is stated in the charter really, the creation of the Committee, about our role. I am asking for you to give through us your recommendations, and I can assure you that they will be considered. I don't always speak for the chairman.

Mr. WILLIAM P. RICHARDSON. One comment. There is an area where I think intelligence has found it quite hard, Defense I think has used it more successfully, and that is being able to state a problem to industry as opposed to stating a requirement for something you want to buy.

There is a process of broad agency announcement where you can provide a broad solicitation to industry to come back with ideas to solve a problem. Intelligence has found it difficult to use that because often the problem is classified in itself. If it looks as if we could get approval for a mechanism that would allow a broad area announcement among the thousand industries that are able to handle classified information, we might be able to get better and quicker response to things. We don't quite understand yet ourselves what the legal limitation is that keeps us from doing that now. That is an area where legislative relief might help.

Dr. CARLSON. I think that is a wonderful idea. Often-times with technologies, technology is open. It is the use of it that is classified.

Mr. WILLIAM P. RICHARDSON. We went through an independent review of NSA's research and development and that was one of the things the review group recognized, is that there is no useful mechanism to state a problem within a fairly large group of industry. The mechanisms we have now appear to make that a conflict of interest issue. So there we have to find a better way.

Mr. COLEMAN. Same problem. We need to have, I think—we need to discuss seriously about how it is that we get a handle on those kinds of problems so that we can get over them. That is just one area and there are others that I think are there.

Thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentleman.

I say to the panel, we have one vote now and I suspect there will be at least one following this and it might run us past noon and other members have other obligations, so we would adjourn the hearing at this time.

I would just suggest to you, we are looking for thoughts and suggestions. We are not limiting it to this. I think we would be very open to any transmittal of that as well.

This has been I think a very intriguing panel and obviously I think it would be of a lot of interest to Members. Let me invite you, whatever thoughts and suggestions you might have in this regard as we move forward, we would be very open to receiving.

Mr. COLEMAN. I think that is critical, Mr. Chairman.

Mr. WILLIAM P. RICHARDSON. We appreciate the opportunity. We love to talk about technology.

The CHAIRMAN. It is an interesting area and very challenging. Thank you very much for appearing today.

The hearing is adjourned.

[Whereupon, at 11:30 a.m., the committee was adjourned.]

IC21 POLICYMAKER HEARING

THURSDAY, JULY 27, 1995.

HOUSE OF REPRESENTATIVES,
PERMANENT SELECT COMMITTEE ON INTELLIGENCE,
Washington, DC.

The Committee met, pursuant to call, at 9:06 a.m., in room H-405, the Capitol, the Honorable Larry Combest (Chairman of the committee) presiding.

Present: Representatives Combest, Dornan, Goss, Castle, Dicks, and Skaggs.

Staff Present: Mark M. Lowenthal, Staff Director; Louis H. Dupart, Chief Counsel; Michael W. Sheehy, Minority Counsel; Christopher Barton, Professional Staff Member; Catherine D. Eberwein, Professional Staff Member; Melissa S. Golder, Staff Assistant; L. Christine Healey, Professional Staff Member; Calvin R. Humphrey, Professional Staff Member; Kenneth M. Kodama, Professional Staff Member; Mary Jane Maguire, Chief, Registry/Security; Michael C. Meermans, Professional Staff Member; Susan M. Ouellette, Professional Staff Member; Timothy Sample, Professional Staff Member; and Kelli L. Short, Staff Assistant.

The CHAIRMAN. The hearing will come to order. We can go ahead and start and get our opening statements out of the way. I want to make sure you understand that the lack of attendance is not representative of a lack of interest in the waning days before the August recess. There are a number of things happening. This is, to all of our Members, very important.

It will be closely viewed and read, and I would hope that in the future as we proceed with this that we might take the liberty of contacting you again as things go forward.

I am pleased to open the third hearing for this Committee's major effort for the 104th Congress, IC21: The Intelligence Community in the 21st Century. In the IC21 process, we are examining the roles, functions, and responsibilities of the Intelligence Community in the 21st Century. Our first hearing featured six former DCIs who offered their views on the organization of the Community and the roles and authorities of the DCI.

At our second hearing, which was by necessity a closed hearing, technical experts discussed the future of enabling technologies in the Intelligence Community.

This morning, we will discuss some of the policy challenges that our Nation will face in the future, the interaction between policymakers and the Intelligence Community, and policymakers' views of the changes needed to ensure an effective intelligence capability in the 21st Century.

As I have said before, a key concern of this Committee is to focus on future intelligence needs and priorities in order to determine what type of Intelligence Community can best address those needs. Even in this post-Cold War era, the Community's primary function remains to provide timely intelligence to policymakers to allow for informed, knowledgeable national security decisionmaking.

Forty-eight years ago yesterday President Truman signed the National Security Act, which laid the groundwork for the Intelligence Community we have today. Now, nearly five decades later, it is crucial to examine whether today's Intelligence Community can adequately adapt to the national security challenges of the 21st century.

As with our first hearing with the former DCIs, this is an open hearing. I believe the American people understand and appreciate the need for good intelligence as a first line of national defense, but given the Ames case and other recent issues, the public may now be questioning the effectiveness of our intelligence services. By making the IC21 process as open as possible, we hope to strengthen public and congressional support for whatever changes we make in the Intelligence Community.

Today, we are fortunate to have three very distinguished high-level former policymakers as our witnesses. General Brent Scowcroft has the rare distinction of being the only person to serve twice as National Security Advisor, under Presidents Ford and Bush. He has also been generous in his service as a private citizen, sitting on a number of key national security panels.

Ambassador Robert Kimmitt served for many years as the Executive Secretary at the NSC, as well as General Counsel at the Treasury Department, Under Secretary of State for Political Affairs and Ambassador to Germany.

Dr. Joseph Massey, who served as assistant U.S. Trade Representative for Japan and China from 1985-1992, is now a professor of international business and Director of the Whittemore Center for International Business at Dartmouth College's Amos Tuck School of Business.

Thank you for coming here today before us. We look forward to hearing your opinions about future U.S. national security needs and the Intelligence Community's ability to be responsive to those needs. The United States now faces more diverse, and in some ways more challenging foreign policy demands than it did during the Cold War.

Given these changes, how this country defines its national security priorities will have a great effect on the activities of our intelligence agencies. We are eager to learn from your experience, as former policymakers, in interacting with the Intelligence Community. This Committee believes that not only does the Intelligence Community need adequate and properly directed resources to fulfill its future missions, it also needs policymakers to engage actively in setting collection and analysis requirements for the Community.

With clear guidance from the policy community, our intelligence resources can be more effectively deployed to collect, analyze, and disseminate the intelligence most needed by our policymakers.

We are also very interested in your views on the following specific topics: First, what do you see as the major strengths and weaknesses of the Intelligence Community?

Second, what are the major stress points between the senior policy customers and the Intelligence Community as a whole and the DCI in particular?

Third, what steps would you suggest to address these stress points and weaknesses?

Finally, as former policymakers, what changes would you recommend the Intelligence Community make to cope with the issues the U.S. is likely to face in the 21st Century?

We will hear a brief, 10-minute opening statement from each of you, beginning with General Scowcroft. Some of you have also given us statements in writing, and all of these will be included in the record in total.

Before we let our witnesses address these issues, I would like to recognize the Ranking Member, Mr. Dicks, for any comments that he might have.

Mr. DICKS. Thank you, Mr. Chairman. I am pleased to welcome our distinguished witnesses here today for the third hearing on the Intelligence Community in the 21st Century. I believe it is extremely important that we have the views of intelligence consumers, as the Chairman has mentioned, in mind as we consider how the Intelligence Community should be structured, managed, and sized in the future. The Intelligence Community does not, and should not, exist for its own sake, but for how well it assists policymakers in performing vital government functions.

We are at a stage today when everything about the Intelligence Community is supposed to be on the table. I hope our witnesses will range freely in their views and share with us their thoughts on what missions the Intelligence Community should undertake in the future, what value intelligence, raw and finished, brings to policy debates, and what would be lost or gained if there were no separate organization of all-source analysts to support policymakers.

I appreciate the fact that we have former policymakers from a variety of positions in the government. The Intelligence Community is fairly large and diverse, and to some extent I question whether the issues associated with one cabinet department are always applicable to issues associated with another. Thus, I would ask our witnesses to be very clear about the strengths and weaknesses they saw in the Intelligence Community and identify which problems were specific and which were more systemic.

Finally, I hope our witnesses will give us insight into how their new experiences outside the government have influenced their thinking on the U.S. Intelligence Community. It is a truism that we are in the midst of an information age. Are there lessons to be learned from how information is now being collected, disseminated, and processed in the private sector and academia that should have a bearing on how we think about the United States Government's information service?

Mr. Chairman, I look forward to hearing from our witnesses, and would also say that it is good to have General Scowcroft back up on the Hill. With his experience in Desert Shield/Desert Storm and having been in the midst of managing that operation in the White

House, I think his views on the strengths and weaknesses of the Intelligence Community from that perspective will be extraordinarily valuable for the Committee. It is good to see you.

The CHAIRMAN. As you know, there are a variety of independent groups that are looking into intelligence for the future. Probably the most notable and recognizable is the commission that was formed under the authority provided from the Congress in the last Congress—originally at the suggestion of former Defense Secretary Aspin, who was working very diligently on this effort—that I will refer to as the Brown Commission.

Mr. Dicks sits on that commission, as does Mr. Goss of Florida. Obviously, they are also members of this Committee, so there is a crossover. We all have the same interests. We are not in this for competition. We don't care who has the good idea as long as it is a good idea. We hope to be able to pull all of this together some time in the beginning of next year and come up with a specific policy. At this time, I would recognize and again express my appreciation to all of you, General Scowcroft, if you would like to begin.

STATEMENT OF LT. GEN. BRENT SCOWCROFT, FORMER NATIONAL SECURITY ADVISOR

General SCOWCROFT. Thank you, Mr. Chairman. It is a great pleasure to be here to discuss with you the Intelligence Community in the 21st Century. My introductory comments will, of course, be primarily from the perspective of the consumer.

First and fundamental, intelligence is at least as important now as it was in the Cold War, but it is different. What is not different is the role that intelligence plays, and that is fundamentally to reduce uncertainty for the decisionmakers when they are faced with critical decisions, and that is a constant and that will never change, and the better the intelligence is, the less uncertainty the decisionmakers are faced with, and therefore the better the decisions will be. But during the Cold War the fundamental task, the top priority of intelligence was the avoidance of strategic surprise.

Since we were in a confrontation, a military confrontation with a great adversary, the important thing was to avoid the possibility that some kind of military technological development would give our opponents a fundamental edge and upset the strategic balance. That era is gone now, and now we are faced with a different kind of top priority, and I would call it political surprise.

We are still faced with a number of possible military challenges around the world, but they are different kinds of challenges. They don't face—they are not directed at the life of the country, but at our fundamental interests, and we need a different kind of intelligence to know where they are going to be and how best to combat them.

It is a very different world, it is a very complex world, there aren't so many blacks and whites, there are various shades of gray, and we need to know what kind of thinking is going on. For example, in the North Korea crisis, which has been going on for several years now, we have operated fundamentally on the presumption that if really challenged, the North Koreans would attack again on the Korean Peninsula. That is a pure assumption. We really don't know, and to the extent we can reduce that kind of uncertainty, we

will certainly aid our decision-making. That is a much tougher kind of intelligence for the United States to get.

We have developed great expertise in what I will call technical intelligence and we do a very good job on that, the kind of fundamental human intelligence is much more difficult, and I think we do much less well at it. We still need the technical, but we need to improve our capabilities to do human intelligence. What does a decision-maker really need?

I don't know a President who really knows what he needs until he needs it. What he wants is to reduce uncertainty in whatever crisis he is facing, so all these exercises which we all have from time to time, questionnaires out to the consumers, what are your intelligence priorities and so on don't mean very much. It is fundamentally, I think, up to the DCI and the Intelligence Community to organize in such a way as to be able to respond to a President who one morning wants to know this and the next morning wants to know the other. It is a very difficult job, but looking to the consumer for setting the priorities is not going to produce the right kind of answers. There are some constants that I think we need to tend to.

I think the reason for the setting up of the Central Intelligence Agency central is still very much there and I think we need perhaps more than ever, before the integrating function of a DCI, to let the various elements of the Intelligence Community operate more or less on their own, especially in a period of constrained resources and proliferating information, I think, is counterproductive. Therefore, because of that and because the decisionmakers don't really know what kinds of things they need ahead of time, I think it is important that the DCI sit in on policy meetings.

Certainly at the outset of policy meetings, he should give the intelligence briefings and so on, but I think in order to understand how the President thinks, how he uses information and so on, it is important for the DCI to observe the decisionmakers in action. If a President wants the DCI to give his policy views, I think that is okay, though the line between intelligence and policy is critical to preserve, and the few times when perhaps we have slipped over it have been pretty disastrous.

I believe the DCI needs to manage the Intelligence Community. As I indicated, I think one of our fundamental problems now is not the gathering of intelligence information, but the management of information and how to sort through the vast amounts of data which come in in order to cull useful finished intelligence from them. That is a management job.

In line with that, I think the DCI also needs perhaps stronger control over resources. I don't think that the Community needs to be merged or more centralized, but I think the DCI needs more control. Duplication in the Community, I think is fundamentally useful, and intelligence from different agencies, different perspectives gives a useful perspective, but we can't afford that now to the extent we could before and therefore it puts a greater burden on the DCI. There are a number of problems.

There is a serious problem in the operations director of the DCI, of which the Ames case is a manifestation and which must be fixed. I won't say anything more about that in this venue. I believe it is

important that we preserve a realistic capability for covert action at a time when I think the chances of using covert action are probably at an all time low.

It is true that one of the main earlier reasons for covert action, that is deniability, no longer is operative in view of the requirement for the President to make findings. But there are other circumstances where the capability to act covertly, not in a massive way like the CIA running the war in Laos, could be important, could save money, and more important could save lives.

I think it is important that we not get ourselves paralyzed by excessive fastidiousness regarding the collection, covert collection of intelligence. If we restrict ourselves to church socials and Kiwanis clubs as a source of our information, we may as well close up shop. This is a different world, it is a nasty world, and we have to go where the intelligence is if we are to get what we need.

We need to exploit the potential that is before us now to eliminate much of the fog of war. A military commander now is very close to having the capability through GPS and other means to know almost exactly where all of his units are. We are not so close, but we are approaching the point where he will know where most of the enemy units are. We need to pursue that technology because that, more than anything else, will give an edge to our military commanders in the field. I think we need to sharpen differences in the intelligence analysis, differences and differing perspectives.

The more a President knows about why different analysts conclude what they have, the better he is able to integrate that knowledge into his own judgments about it, so I would say out with mushy consensus views and in with sharp and differing views of different analysts.

One final word about executive-legislative relations on intelligence. I think, in my judgment, the Congress is no leakier a vessel than the Executive branch is on the custody of intelligence information, and I think from my personal experience we ought to put that one to rest. Presidents frequently get the sense, however, that the DCI and the Intelligence Community work for the Congress rather than for the President. The Intelligence Community is afraid of the Congress; it is not afraid of the President.

The Congress tends to be more insistent on oversight and other kinds of calling to account, if you will. That is not a useful situation. I was concerned, for example, when the new DCI said that he considered in his confirmation hearings, he considered the Committees his board of directors. I think that is not right.

His board of directors is the National Security Council, and we need to keep that straight. I would like to stress the importance of comity between the executive and the legislative branches in the management of intelligence. The Committees have a unique oversight function which they should pursue vigorously, but the Committees now go far beyond the oversight into the planning and the management, the execution of intelligence operations, and in that I think there should be a much closer relationship between the Committees and the Executive branch to manage this intelligence in a very difficult era. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, General Scowcroft. There were some great thoughts there. I was rapidly making notes, and we will follow up on them.

The CHAIRMAN. Ambassador Kimmitt.

STATEMENT OF AMBASSADOR ROBERT KIMMITT, FORMER AMBASSADOR TO GERMANY AND EXECUTIVE SECRETARY AT THE NATIONAL SECURITY COUNCIL

Mr. KIMMITT. Thank you, Mr. Chairman, Mr. Dicks, thank you, too, for inviting me to appear before you to discuss the Intelligence Community in the 21st Century. I have been asked by your staff to keep my opening statement to 10 minutes, which as a private citizen I can easily do since I did not have to clear these remarks with anyone else before coming in this morning!

Let me begin by stating what I hope is an accepted fact, and I think it is from listening to your comments and Mr. Dicks' comments: that timely, accurate, and comprehensive intelligence is and will remain essential to the formulation and implementation of an effective national security policy.

By "national security," I mean the summation of our foreign, defense, and international economic policies, all resting on a firm intelligence foundation. My understanding of your project on the Intelligence Community in the 21st Century is that it seeks ways to ensure that this foundation can help create opportunities and meet challenges at the turn of the century and beyond.

In 27 years of government service I never worked in the Intelligence Community. However, in assignments ranging from the battlefields of Vietnam to the battlefields of bureaucratic Washington, I have been a voracious consumer of intelligence product and a policy counterpart to numerous first class Intelligence Community colleagues.

Drawing from these nearly three decades of experience, let me offer the following seven observations, which I hope will stimulate further discussion among those here: First, policy and intelligence must be separate, but inseparable. The Intelligence Community must not set policy nor should the policy community dictate intelligence conclusions. However, the two communities must interact seamlessly.

To help achieve this goal, I would suggest a significant increase in cross-community details, whereby mid-level intelligence and policy officials could spend two years in each other's agencies. I would also suggest not overemphasizing the fact that the Director of Central Intelligence should not be a policy official because that could be used as an excuse to keep him or her out of key groups or meetings. While he or she should not be a policy formulator or recommender, the DCI should always be at the table to help set the foundation when policy is discussed. I also see no reason why the DCI should not present policy views if asked by the President.

Second, do we need intelligent information or informative intelligence or both? As we come to realize how early we are in this new information era, we need to examine closely the interrelationship between information and intelligence. As a policymaker, I would always prefer timely, integrated, and comprehensive intelligence to raw information.

In today's world, however, policy reaction time is getting shorter and shorter, and a report by a CNN stringer in a far-off land, who coordinates and clears with no one but his camera and sound crew, is much more likely to stimulate a policy-level response than a coordinated, yet later in time intelligence product.

The Intelligence Community should not strive to become the Information Community, but it should continue to consider ways quickly to disseminate information it has obtained, even as it moves to coordinate and analyze that and related information. At the risk of oversimplifying, on important, fast-breaking matters, I would suggest a one sentence or one paragraph spot report within an hour of receipt of the information; a one-page summary of related, all source, though still unprocessed information within three hours; and a finished intelligence report within six hours of receipt.

In this connection, my third point is that untimely intelligence is not intelligent. When I first worked at the National Security Council under Brent in 1976, CIA product was the first thing I read each morning in the office. Fifteen years later, as I completed my tour as Under Secretary of State for Political Affairs, CIA's morning product was often either read last or not at all.

The reason was that CIA generally closed its product the night before to ensure an attractive presentation the next morning. Other sources, both open and classified, often delivered less glossy, but far more timely products. Analytical pieces certainly require more lead time, but day-to-day products should emphasize timeliness to ensure relevance and use.

Fourth, consensus should be a natural result and never a prescribed goal. Some of the best intelligence and policy papers I have seen were on topics where strongly held, divergent views were argued very forcefully by the protagonists. At the other end, as Brent indicated, consensus documents are often mush, with superfluous paragraphs usually a dead give away that someone decided to cave in rather than stand and fight. I am not saying consensus should be avoided—it is powerful when obtained properly—but rather it should never be forced.

Fifth, the Cold War is over, but some relics remain. Based on observations now two years old, I think the Intelligence Community is in the process of a well-considered internal restructuring. As we face new, varied, and increasing challenges to our national security, the restructured Intelligence Community needs to work even closer with partners abroad to share the burden of these challenges.

I question, however, whether the differing forms of relationships we have with overseas partners match the reality of today and the future. In terms of intelligence relationships, we treat some countries that are less important to our long-term national interests much better than countries far more significant to our future. It is time to reassess these relationships to ensure that they meet our future priorities. If we are concerned about whether a country will play by the rules required by a qualitatively improved relationship, we should only take those steps in the new direction as are warranted by the country's responsiveness.

Sixth, cost-benefit analysis is rarely costly and always beneficial. Intelligence collection costs money and can cost more. Before it is

undertaken, particularly using extraordinary means, one should first ensure the information cannot be obtained by less costly, even overt means; second, that the information will be used once collected at a level and for a purpose that is at least commensurate with the risk involved in collection; and, third, we must be prepared to accept and, if possible, ameliorate the consequences of a failed operation.

Seventh, and finally, should intelligence help level or also tilt the international economic playing field? When treated fairly, American companies can outcompete anyone in the global marketplace. As Ambassador, I worked every day to ensure U.S. companies had a fair chance to compete in Germany, a notably difficult market.

I believed then and believe now that the United States should use all means at its disposal, including the Intelligence Community, to ensure U.S. companies are not disadvantaged in their overseas operations. However, I believe we need to consider carefully whether the U.S. Government should use its resources, including intelligence, to attempt to tilt the overseas commercial playing field in favor of U.S. companies. Doing so would create a form of international industrial policy, which, over the long run, may work against U.S. companies by encouraging foreign countries to be even more nationalistic in their own commercial policies.

Mr. Chairman, that ends my prepared remarks. I would be pleased to answer your questions or separately if classification considerations so require. Thank you again for the invitation to testify.

[The statement of Mr. Kimmitt follows:]

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**STATEMENT BY ROBERT M. KIMMITT
BEFORE THE
PERMANENT SELECT COMMITTEE ON INTELLIGENCE
U.S. HOUSE OF REPRESENTATIVES**

JULY 27, 1995

Mr. Chairman, Members of the Committee:

Thank you for inviting me to appear before you to discuss the Intelligence Community in the 21st Century. I have been asked to keep my opening statement to 10 minutes, which I can easily do since, as a private citizen, I have not had to accept paragraphs from others to gain their clearance on my remarks!

Let me begin by stating what I hope is an accepted fact: that timely, accurate, and comprehensive intelligence is and will remain essential to the formulation and implementation of an effective national security policy. By "national security," I mean the summation of our foreign, defense, and international economic policies, all resting on a firm intelligence foundation. My understanding of your project IC 21: The Intelligence Community in the 21st Century is that it seeks ways to ensure that this foundation can help create opportunities and meet challenges at the turn of the century and beyond.

In twenty-seven years of government service, I never worked in the Intelligence Community. However, in assignments from the battlefields of Vietnam to the battlefields of bureaucratic Washington, I have been a

voracious consumer of intelligence product and a policy counterpart to numerous first-class Intelligence Community colleagues. Drawing from these nearly three decades of experience, let me offer the following observations, which I hope will stimulate further discussion among those here:

-- Policy and intelligence must be separate but inseparable. The Intelligence Community must not set policy, nor should the policy community dictate intelligence conclusions. However, the two communities must interact seamlessly. To help achieve this goal, I would suggest a significant increase in cross-community details, whereby mid-level intelligence and policy officials could spend two years in each other's agencies. I would also suggest not overemphasizing the fact that the Director of Central Intelligence should not be a policy official, because that could be used as an excuse to keep him or her out of key groups or meetings. While he or she should not be a policy formulator or recommender, the DCI should always be at the table to help set the foundation when policy is discussed. I also see no reason why the DCI should not present policy views if asked by the President.

-- Intelligent information or informative intelligence -- or both?
As we come to realize how early we are in the new information age, we need to examine closely the interrelationship between information and intelligence. As a policymaker, I would always prefer timely, integrated, and comprehensive intelligence to raw information. In today's world, however, policy reaction time is getting shorter and shorter, and a report

by a CNN stringer in a far-off land, who coordinates and clears with no one but his camera crew, is much more likely to stimulate a policy-level response than a coordinated, yet later-in-time, intelligence product. The Intelligence Community should not strive to become the Information Community, but it should continue to consider ways quickly to disseminate information it has obtained, even as it moves to coordinate and analyze that and related information. At the risk of oversimplifying, on important, fast-breaking matters, I would suggest a one-sentence or one-paragraph spot report within an hour of receipt of the information; a one-page summary of related, all-source, though still unprocessed information within three hours; and a finished intelligence report within six hours of receipt.

-- Untimely intelligence is not intelligent: When I first worked at the National Security Council in 1976, CIA product was the first thing I read each morning in the office. Fifteen years later, as I completed my tour as Undersecretary of State for Political Affairs, CIA's morning product was often either read last or not at all. The reason was that CIA generally closed its product the night before to ensure an attractive presentation the next morning. Other sources, both open and classified, often delivered less glossy, but far more timely, products. Analytical pieces obviously require more lead time, but day-to-day product should emphasize timeliness to ensure relevance and use.

-- Consensus should be a natural result and never a prescribed goal. Some of the best intelligence and policy papers I have seen were on topics where strongly-held, divergent views were argued very

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-- The Cold War is over, but some relics remain. Based on observations now two years old, I think the Intelligence Community is in the process of an well-considered internal restructuring. As we face new, varied, and increasing challenges to our national security, the restructured Intelligence Community needs to work even closer with partners abroad to share the burden of these challenges. I question, however, whether the differing forms of relationships we have with overseas partners match the reality of today and the future. In terms of intelligence relationships, we treat some countries that are less important to our long-term national interests much better than countries far more significant to our future. It is time to reassess these relationships to ensure they meet our future priorities. If we are concerned about whether a country will play by the rules required by a qualitatively improved relationship, we should take as many steps in the new direction as are warranted by the country's responsiveness.

-- Cost-benefit analysis is rarely costly and always beneficial. Intelligence collection costs money and can cost more. Before it is undertaken, particularly using extraordinary means, one should: (1) ensure the information cannot be obtained by less costly, even overt means; (2) use the information, once collected, at a level and for a

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purpose that is at least commensurate with the risk involved in collection; and (3) be prepared to accept and, if possible, ameliorate the consequences of a failed operation.

-- Should intelligence help level, or also tilt, the international economic playing field? When treated fairly, American companies can out-compete anyone in the global marketplace. As Ambassador, I worked every day to ensure U.S. companies had a fair chance to compete in Germany, a notably difficult market. I believed then and believe now that the United States should use all means at its disposal, including the intelligence community, to ensure U.S. companies are not disadvantaged in their overseas operations. However, I believe we need to consider carefully whether the U.S. government should use its resources, including intelligence, to attempt to tilt the overseas commercial playing field in favor of U.S. companies. Doing so would create a form of international industrial policy, which, over the long run, may work against U.S. companies by encouraging foreign countries to be even more nationalistic in their own commercial policies.

Mr. Chairman, that ends my prepared remarks. I would be pleased to answer your questions, either in this forum or separately if classification considerations so require. Thank you again for your invitation to testify.

The CHAIRMAN. Thank you, and that may be a possibility if we want to get into some areas that would be inappropriate in this forum, and thank you for volunteering that.

Dr. Massey.

STATEMENT OF DR. JOSEPH MASSEY, FORMER ASSISTANT U.S. TRADE REPRESENTATIVE

Dr. MASSEY. Thank you, Mr. Chairman. Members of the Committee, I am very pleased to be here this morning and have the opportunity to share with you my views as you explore the foreign policy challenges that are likely to confront our country as we move into the next century and the implication those challenges may have for our national intelligence priorities.

In my remarks this morning, I will focus on international trade policies, since this is where my own background and experience provide the greatest relevance to the committee's interests.

For nearly five decades in eight multilateral trade rounds and innumerable bilateral negotiations, a central objective of U.S. trade policy has been to establish a world trading system in which national policies that close markets to our firms or favor domestic firms in those markets are checked by international rules that guarantee open markets, nondiscrimination, and equal treatment to all competitors, domestic and foreign. Despite the success we have had in creating formal international rules, nations, however, continue to find ways to ignore or get around those rules and give their competitors an advantage.

In looking at the implications in trade of Intelligence Community support this morning, my objectives today will be modest. First, I want to highlight two broad developments in the area of international trade that seem to me to warrant an expanded effort at information collection and analysis, and, second, I want to suggest what I see as the broad kinds of contributions that the Intelligence Community can make to ensure that our trade policies are based on solid information and guided by accurate assessments.

First, let me look at these issues that I believe require enhanced efforts at information and analysis, and I will focus on two, the emergence of new economies from both the Second and the Third World as major players in the world trading system, and the increased importance of private business practices as market barriers and market distortions.

The world is currently undergoing, as many of us are aware, one of the most profound and extensive economic periods of economic change to occur this century. Vast energies have been unleashed in the Third World which are very likely within the next two decades to challenge the dominance in the global economy of the United States and the other industrial nations of the First World, and to change the dynamics of international markets and business competition within and across them.

The World Bank projects that by 2020 China will be the world's largest economy with output 40 percent greater than that of the United States. India will be number four, close on Japan's heels, and all together nine of the 15 largest economies in the world will be from the developing economies. Meanwhile, the Second World of the former Soviet bloc is undergoing its own transformation as once

socialist economies are moving increasingly toward market systems.

Of the many issues emerging from this remarkable ferment of economic activity, I would highlight three key questions that U.S. trade and economic policymakers will need information, analysis and answers about. First, what economic model of a market system or some variant thereof will these nations follow; second, in those nations who will govern, by what rules, and who will comply in the economic area; third, what leverage will the United States have to bring to bear on these economies in the course of their own development, and as they deal with us in trade.

First of all, with respect to the model of capitalism. As the governments of these nations turn away from the socialist model of economics, United States economic and trade interests are likely to be greatly affected by whether they adopt a model of capitalism like our own with its emphasis on free competition and open markets or whether they will seek alternatives.

The Japanese model, with its historic emphasis on bureaucratic guidance, the promotion of competition among domestic firms, inward technology acquisition from advanced foreign firms, and protection of the market from foreign rivals until domestic firms are competitive offers one notable and alluring alternative.

The Chinese have clearly been impressed by this Japanese model of an economic regime that offers high growth potential coupled to a continuing key role for the State bureaucracy. So also has Vietnam, which with its own economic reform plan under way currently has, according to press reports, a plan to consolidate all of its State enterprises into 15 industrial groupings modeled on the Japanese keiretsu.

A crucially important part of the Japanese model for U.S. policymakers has been its combination of a protected market and export-led growth, creating serious competitive pressures on U.S. producers at home and abroad and, inevitably, generating strong political pressure for protectionism in the United States.

We are now at serious risk, in my view, of a repeat of that process. This time with a surging Chinese economy. China's exports to the U.S. are rising at such a pace that its bilateral trade surplus with us is projected to surpass Japan's with us within five years.

Now, the implications for the access of U.S. firms to these rapidly growing markets and the conditions of competition in world markets if these countries were to implement large scale adoption of the Japanese model, including its exclusionary elements, would be serious and negative.

The second question that we ought to be looking at is the question of who governs, by what rules, and who will comply. These are practical concerns for our businesses trying to operate there.

In China and elsewhere the central bureaucracy may continue to play an important formal role, but its ability to enforce its rules and mandates throughout the economy and in the provincial sections of the country is in decline. This decentralization of authority, while it helps spur market forces, also seems to be accompanied by a decline in the rule of law.

A good example of this is what happened in China after the U.S. and China signed a 1992 agreement on intellectual property protec-

tion. A visiting official from USTR was told by a very senior official in one of China's southern provinces that the agreement was *meiyo guanxi*, irrelevant, in that province and that they would not comply with it or enforce it.

Ultimately, this led to a proliferation of factories there making pirated copies of American CDs and CD-ROMs which gave rise to a very serious trade dispute earlier this year between the United States and China over an issue that China's central government had supposedly resolved three years ago.

Non-transparency in rules is a major problem. Foreign businesses seeking to obtain approvals in China and elsewhere in the Second and Third World are often told by bureaucrats that the activity for which they are seeking permission is prohibited by secret or confidential regulations or they find it exceedingly difficult to obtain copies of published rules.

Parenthetically, I would note that often you don't know whether the rules don't exist or you are being asked for a bribe. This is a very difficult problem for businesses trying to operate in these economies. The key questions here for policymakers are what leverage will the U.S. have vis-a-vis these societies, what resources can we bring to bear to influence the models of market economies that they emulate, and the policies that they impose on our companies as they try to do business there? What do these countries need from us or from our firms that they cannot get elsewhere?

Answering questions like these requires that we have a good reading on the values and beliefs of the key elites, both government and business elites in these countries, the divisions among them, and the likely range of their responses to American policy initiatives.

In the developed world we face a rather different situation. For trade policymakers dealing with the developed economies, the challenges no longer center on the classic problems of formal trade barriers.

Nearly 50 years of the GATT and multiple rounds of multilateral and bilateral trade negotiations have resulted in the gradual elimination or suppression of most of the traditional governmental barriers to trade in goods, although there are still significant formal barriers in the area of services.

Tariffs, quotas, standards and certification procedures are not the key issue in markets like Japan anymore. Rather, what we are faced with is a new kind of problem, anti-competitive private business practices. For U.S. producers the corporate marketplace, rather than the consumer marketplace, is particularly important. We tend to have our greatest competitive advantage in goods that are consumed by other corporations—producer goods, capital equipment—rather than inexpensive or luxury consumer items such as T-shirts or luxury automobiles.

Breaking into corporate marketplaces that have established patterns of relationships between corporate customers, suppliers, and distributors has been a particularly difficult and friction-producing problem for the United States, particularly in our relationship with Japan. But precisely because the decisions of private firms are private decisions rather than government policies, the issue raises philosophical concerns as to whether they should be made the sub-

ject of trade negotiations or be considered or deemed actionable under U.S. trade laws.

As U.S. trade and competition policymakers consider whether and how to respond to such practices, they will, whatever policymakers eventually decide, need firm evidence and objective analysis of the extent of these practices and their impact on U.S. interests.

Let me turn now to the ways in which the Intelligence Community supports trade and economic policy and how that might be made more effective. In my view the key contributions of the Community are to provide information and analysis that is first objective, that secondly provides context, depth, and perspective in a strategic sense as we deal in an increasingly competitive world, and, third, that draws on all appropriate sources, including open sources.

Our policy process, as we look at the issue of objectivity, is one in which in the trade area and many other areas of economic policy many agencies have a stake and an interest. They also have their own individual agency views on the key issues which serve as lenses through which they interpret and assign priorities to issues. But we need single, unified policies for the United States to deal with our overseas trading partners, and that requires bridging differences in agency views which in turn requires agreement between the agencies on the facts and to the greatest extent possible on the implications of those facts for U.S. interests.

In my experience, the ability to provide information and analysis on international economic issues that is generally accepted by all agencies as objective has been a major strength of the Intelligence Community. It also argues very strongly in my mind against transferring the responsibility for analysis of foreign economic issues to any one of the policy agencies. Even State, with all due respect, which has substantial resources and capabilities to collect and analyze information about foreign economic issues is frequently unable when U.S. diplomatic and political interests are posed against U.S. economic interests, to overcome the inclination to subordinate economic to political interests.

Moreover, because the Intelligence Community must respond to all parts of the government and to administrations and Members of Congress from different parties and with different philosophies, it cannot permit philosophical or ideological biases to influence its analysis. In that very important respect, it has the kind of cross-cutting credibility with policymakers that private think tanks and academics, however brilliant or expert, do not possess.

The second essential contribution the Intelligence Community makes to the policymakers in the economic field is providing the big picture. Few policy agencies can afford the time and the staff to lay out the big picture which surrounds key issues and developments on the international economic scene. Few private organizations can do it on demand with the kind of prompt response and the reliability that is expected of Community products.

Finally, General Scowcroft mentioned very briefly the importance of exploiting openly available information. When we look at societies like Japan, there is a huge amount of information available that goes unreported. We do get as policymakers a substantial

amount of information from all sources, all channels, but an enormous amount of the information about Japan goes unanalyzed because Japanese language capabilities or the capabilities in other difficult languages are a limited resource inside the U.S. Government as they are generally inside the country. Here it seems to me is an opportunity where we might look to private organizations to help us track key policy programs, institutions, et cetera, sourcing from open documents.

Mr. Chairman, it is a maxim of intelligence that where circumstances dictate the direction of policy, intelligence should follow. As we begin the countdown to the 21st century, it is evident that some of the most important challenges to this country in world affairs will arise in the competition for economic leadership. On the success of American firms in exporting and competing in world markets will depend in increasing measure the livelihood of our workers and the standard of living of their families.

As the U.S. attempts to sort out the opportunities from the risks in all of the change in the world economy, solid facts, accurate assessment, and rapid response will be essential ingredients for successful policies. In an uncertain world what is certain is the need for information. Thank you, Mr. Chairman. That concludes my statement. I would be happy also to take questions from the committee.

[The statement of Dr. Massey follows:]

INTELLIGENCE COMMUNITY SUPPORT
FOR
U.S. TRADE AND ECONOMIC POLICIES

Statement of

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before

The United States House of Representatives
Permanent Select Committee on Intelligence

July 27, 1995

23-711 338

Mr. Chairman and members of the Committee, I am very pleased to be here this morning to have the opportunity to share my views with the Committee as you explore the foreign policy challenges that are likely to confront our country into the next century and the implications they may have for our national intelligence priorities.

My remarks will not attempt to address all of the diverse aspects of foreign policy. Rather, I will focus on the trade, investment, and intellectual property dimensions of our foreign economic policies, since this is where my own background and experience provide the greatest relevance to the Committee's interests.

I had the honor of serving for more than ten years in the Office of the U.S. Trade Representative. For seven of those years, from 1985 to 1992, as the Assistant U.S. Trade Representative for Japan and China, I headed the office charged with coordinating U.S. trade policy and negotiating strategy toward these two countries.

Vis a vis Japan, my office dealt with issues ranging from such high tech areas as satellites, semiconductors, supercomputers and telecom to agricultural issues like apples, beef, and citrus, and other industrial issues such as plate glass. We participated in the Structural Impediments Initiative that the Bush Administration undertook to delve beyond formal trade barriers into underlying impediments to access rooted in economic structures and business practices. We took part in the MOSS negotiations initiative of the Reagan Administration, and in the many Section 301 cases investigating Japanese trade policies and practices.

At the same time, we were actively engaged in a sustained, seven year effort to begin to establish open markets and protection for American intellectual property in China. Those negotiating efforts eventuated in two landmark agreements in 1992 in which China adopted a copyright law, strengthened patent protections, and joined international intellectual property conventions, in the one case, and substantially reduced formal tariff and non-tariff barriers and committed to institute transparency in trade-related regulations, in the other.

Meanwhile, my colleagues at USTR were actively involved in negotiating NAFTA and the Uruguay Round. It was an exciting time to be in a front line unit in pursuit of America's economic interests around the world. It was a time in which those economic interests assumed greater and greater prominence in our foreign relationships.

That trend seems very likely to continue. With the end of the Cold War, concern about the economic standing and competitiveness of our country in the world economy, and the impact of our trading partners' policies and practices, has grown in importance. National security no longer means only our ability to defend ourselves and our allies from military adversaries, but, in the minds of many, now encompasses our ability to preserve and promote the economic well-being of our citizens, their jobs, their companies, their products and their intellectual property and to enable them to compete on a level playing field at home and around the world.

Now you may have heard that the world we live in is an increasingly inter-dependent place, that business competition now takes place in a global

marketplace, a borderless world economy. Don't believe it. The reality is that the world economy remains today an inter-national one, in which the borders between nations continue to play an enormously important role in determining the scale, the composition, and the direction of trade, and in determining who benefits from trade. Once you step across the border, the rules change, the rule-makers change, and those who influence the rule-makers change as well. And the decisions that the rule-makers in those lands across the borders make naturally tend to favor those with the greatest influence over them, their fellow citizens and countrymen.

For nearly five decades, in eight multilateral trade rounds and innumerable bilateral negotiations a central objective of U.S. trade policy has been to establish a world trading system in which national policies that close markets or favor the home team are checked by international rules that guarantee open markets, non-discrimination and equal treatment to all competitors, domestic and foreign. But this has been an unnatural act, as Tip O'Neill would have understood very well. Despite the success we've had in creating formal international rules, nations continue to find ways to ignore or get around those rules and give their competitors an advantage .

I won't burden the Committee today with an attempt at a complete enumeration of the ways in which foreign governments advantage their own firms in international competition and disadvantage ours. My objectives are more modest. First, I want to highlight two broad developments in the arena of international trade that seem to me to warrant an expanded effort at information collection and analysis in support of our policy makers' efforts to ensure open markets and level playing fields. And second, I want to suggest what I see as the

broad kinds of contributions that the intelligence community can make to ensure that our trade policies are based on solid information and guided by accurate assessments.

...

TRADE ISSUES REQUIRING ENHANCED INTELLIGENCE

For U.S. trade policy makers looking out into the next decade and further into the new century, a host of specific issues loom on the horizon—trade and the environment, the further liberalization of services, the operation of the new World Trade Organization, etc. But to my mind, two key issues spring to the fore in considering the need for a intensified focus on high quality information and analysis:

- the emergence of new economies, from both the second and third worlds, as major players in world trade, and
- the increased importance of private business practices as market barriers and distortions.

• THE NEW ECONOMIES AS PROBLEMS FOR U.S. TRADE POLICY

As this year's *Economist* survey of the world economy points out, the world is undergoing the most profound and extensive economic changes to occur this century. Vast energies have been unleashed in the "third" world, which are very likely within the next two decades to challenge the dominance of global economic power by the industrial nations of the "first" world and change the dynamics of international markets and business competition within and across them. By 2020, the World Bank projects that China will be the world's largest economy with output 40% greater than the U.S., India will be number four close

on Japan's heels, and altogether nine of the 15 largest economies in the world will be from the "developing countries."

Moreover, as economic activity and development gain increasing momentum in the third world, the second world of the former Soviet bloc is undergoing its own transformation, as once socialist economies are moving increasingly toward market systems.

The scale and pace of the changes underway in these markets present both enormous opportunities for American firms and significant challenges to American economic policy. If major new markets are emerging, so also are potentially significant new competitors with lower labor costs and less stringent environmental labor and social regulations. Entering those markets— and selling, investing, sourcing, manufacturing, marketing, retailing, negotiating and competing in them — will test the mettle of this country's business managers; dealing with the governments of these emerging economic powers will test the skills and the strategies both of our own government policy makers and of our firms as they engage in business there.

There are a significant number of issues common to both the transforming socialist economies and the developing economies which present important challenges for U.S. policy. Of the many issues emerging from this remarkable ferment of economic activity, I would highlight three key questions that U.S. trade and economic policy makers will need information, analysis and answers about:

- What economic model will these nations follow?
- Who will govern, by what rules and who will comply?
- What leverage will the U.S. have to bring to bear on these economies in the course of their development?

Which model of capitalism will they follow (and how closely) ?

As the governments of the second and third world nations turn away from the socialist model of economics, U.S. economic and trade interests are likely to be greatly affected by whether they adopt the American model of capitalism with its emphasis on free competition and open markets or seek alternatives. The Japanese model, with its historic emphasis on bureaucratic guidance, the promotion of competition among domestic firms, inward technology acquisition from advanced foreign firms, and protection of the market from foreign rivals until domestic firms are competitive, offers one notable alternative.

The Chinese have clearly been impressed by an economic regime that offers high growth potential coupled to a continuing key role for the state bureaucracy. Last year, Chinese economic policy makers, including Vice-Premier Zhu Rongji who has overall responsibility for Chinese economic policies, visited Tokyo for an extensive series of seminars by senior Japanese bureaucrats on all facets of Japanese-style economic policy making . The Chinese State Science and Technology Commission has begun a regional development program in science and technology modeled on the impressive Key Technology Center program of Japan's MITI.

Vietnam, which has been undergoing its own search for economic “renovation” (or *Doi Moi*), reportedly plans to consolidate all state enterprises into fifteen industrial groupings modeled on the Japanese *keiretsu*.

A crucially important part of the Japanese model for U.S. policy makers has been its combination of a protected market and export-led growth, creating serious competitive pressures on U.S. producers at home and abroad and, inevitably, generating strong political pressure for protection in the U.S. We are now at serious risk of a repeat of the process, this time with a surging Chinese economy. China’s exports to the U.S. are rising at such a pace that its bilateral trade surplus with the U.S. is projected to surpass Japan’s within five years.

The implications for the access of U.S. firms to these rapidly growing markets and the conditions of competition in world markets if these countries were to implement large-scale adoption of the Japanese model, including its exclusionary elements, would be serious and negative. So would the implications of the inevitable friction and possible confrontation such a development would bring about in the overall political relationship between the U.S. and these countries.

Who governs, by what rules, and who will comply?

A major difficulty for American businesses attempting to operate in many of the transforming economies is an institutional framework in which it is not clear who is in charge, which agencies or levels of government have jurisdiction, and which rules are serious and have to be obeyed and which do not.

Who governs and who complies are two sides not of a question in political theory but of a practical concern for foreign businesses trying to operate in many new economies. While in China and elsewhere the central bureaucracy continues to play an important formal role, its ability to enforce its mandates throughout the economy is in decline. Foreign firms doing business in the provinces in China are often told by provincial authorities or state enterprises that they need not—or *should* not—be in touch with central government ministries in Beijing. The prudent firm cannot afford to alienate *any* authority and winds up having to deal redundantly with central, provincial and local authorities and numerous agencies all on the same issues and often to little avail.

The same decentralization of authority that helps spur market forces seems in many, though not all, of the new economies to be accompanied by a **decline in the rule of law**. Soon after Beijing signed the 1992 agreement to protect U.S. intellectual property against piracy, a visiting USTR official was told by a very senior official in one of China's southern provinces that the agreement was "irrelevant" (*meiyo guanxi*) so far as his province was concerned, and they would not comply with or enforce it. Ultimately, this led to a proliferation of factories in that province making pirated copies of American CD's and CD-ROM's, and to a very serious trade dispute erupting earlier this year between the U.S. and China over an issue that China's central government had supposedly resolved three years ago. The pirates in the case were, in many cases, closely connected to, and presumably protected by, high level officials.

Non-transparency is a major problem. The rules governing economic transactions, imports, licenses, approvals are often arbitrary and/or difficult to

discover. Foreign businesses seeking to obtain approvals will be told by bureaucrats that the activity for which they are seeking permission is prohibited by secret or confidential regulations or will find it exceedingly difficult to obtain copies of published rules. -- .

Sometimes the non-transparency of the system reflects a hangover of traditional communist views of trade and economic data and regulations as national secrets. Vietnam, for example, was reported recently in the press to have classified all of its trade and investment data on this basis. In our market access negotiations with China, we encountered numerous instances of such secret regulations, which the Chinese term *neibu*. We made it a major objective of the negotiations to get the Chinese to accept that all rules governing trade and investment must be published and that no unpublished regulation could be enforced. But committing to such a step, and getting an entire bureaucracy brought up on secrecy to change its ways, are two different things. U.S. companies are still reporting numerous instances in which they are being told by Chinese officials that some *neibu* regulation or another prohibits them from engaging in some business activity in China.

What leverage will the U.S. have ?

This is the key question for the policy makers. As we pursue our overall range of goals vis à vis these countries, including our economic goals, what resources can we bring to bear to influence the models they emulate and the policies they impose? What do these countries need from us or our firms that they cannot get elsewhere? What domestic forces are there who might support open markets and free competition? Which forces are arrayed behind market

protection, export subsidies, and piracy of foreign technology? What do we gain in terms of our economic and other policy goals if we take a soft line on issues like human rights, labor standards, etc. What are we likely to sacrifice by taking a strong stance on such issues? Does the increasing dependency of China and others on the U.S. as an export market provide leverage in our attempts to induce changes in their trade policies? How about in their human rights policies?

Answering questions like these requires that we have a good reading on the values and beliefs of the key elites in these countries, the divisions among them, and the likely range of responses to American policy initiatives.

- **PRIVATE BUSINESS PRACTICES IN THE DEVELOPED WORLD**

For trade policy makers dealing with the developed economies, the challenges no longer center on the classic problems of formal trade barriers. Nearly fifty years of the GATT and of multiple rounds of multilateral and bilateral trade negotiations have resulted in the gradual elimination or suppression of most of the traditional governmental barriers to trade in goods (although we are still a long way from that point in services). At the border, tariffs and quotas are now far less significant than in years past. In the office of the bureaucrat, the process of securing approvals for imports, gaining access to foreign exchange, etc. is far less problematic. To be sure, problems remain in areas such as standards and certification procedures, but even here substantial progress has been made toward international harmonization.

Where we are now, however, is at a more difficult level — the level of private business practices. For U.S. producers the corporate marketplace rather

than the consumer marketplace is particularly important. We tend to have our greatest competitive advantage in goods that are consumed by corporations—producer goods and capital equipment—rather than inexpensive or luxury consumer items such as tee shirts, on the one hand, or luxury automobiles, on the other.

Breaking into corporate marketplaces with established patterns of relationships between corporate customers and suppliers, or distributors, has proven to be a particularly thorny issue. It was this issue indeed that led earlier this year to one of the most serious bilateral trade disputes between the United States and Japan in our post-war history, with the United States threatening to impose three billion dollars in retaliatory tariffs against Japan in the auto and auto parts area.

Because the decisions of private firms are private decisions rather than government policies, the issue raises philosophical concerns both between the two countries and amongst the agencies of the U.S. government as to whether they should be made the subject of trade negotiations or deemed actionable under U.S. trade laws. While that debate is likely to continue, so too is pressure from U.S. industry for the government to act against foreign industry practices that effectively substitute private market barriers for government ones. The extensively documented Section 301 petition brought recently by the Kodak Company against the privatizing of protection in Japan's photographic film and paper market is a case in point.

If our trade objectives are truly to open markets and level playing fields, our policies will have to come to grips with the kinds of practices that that petition documents. It is instructive to note that the most controversial U.S. trade initiative of the 1980's toward Japan; the 1986 semiconductor agreement, tackled the problem with extraordinary success by requiring Japanese semiconductor user firms to open their procurement processes—in fact and not just in name—to U.S. and other foreign semiconductor manufacturers. The outcome, after much heat between the two governments, has been the development of close supplier-purchaser relations between U.S. and Japanese firms, and the disappearance of the issue from the trade agendas of the two governments.

Other private business practices have also been cited by U.S. industries, both in Japan and elsewhere, including cartels, bid-rigging, and other anticompetitive activities, as serious impediments to their access to important foreign markets. As U.S. trade (and competition) policy makers consider whether and how to respond to such practices, they will, whatever they eventually decide, need firm evidence and objective analysis of the extent of these practices and their impact on U.S. interests.

INTELLIGENCE COMMUNITY SUPPORT FOR TRADE AND ECONOMIC POLICY

How can the intelligence community most effectively support the policy community in its efforts to cope with the challenges to our economic interests in world markets? In my view, the key contributions it can make are to provide

information and analysis that is objective, that provides context, depth and perspective, and that draws on all appropriate sources, including open sources.

...

- **ENSURE OBJECTIVITY**

The policy process that bears on our international trade, investment and economic interests has a multitude of players. The agencies normally involved range from USTR, Commerce, Treasury and USDA to CEA, OMB, Labor, and Justice. A good many issues involve others such as DOD and DOE. The State Department always plays a role. Each of these agencies brings an “agency view” to the key issues in our foreign economic policies. The differences in their views arise from the different primary roles each agency plays. State is charged with the overall relationship between the United States and other countries. Treasury has macro-economic interests and financial and exchange rate concerns. Commerce, Labor and USDA have specific sectoral constituencies. The jurisdictional responsibilities and constituencies of the agencies tend to create lenses through which they view, interpret and assign priority to issues.

But our foreign economic policies cannot be allowed to reflect such differences. Developing a unified policy position for the United States on economic issues with foreign countries is essential. And that requires bridging the agency differences, which in return requires agreement between the agencies on the facts and—to the greatest extent possible—on the implications of those facts for U.S. interests.

In my experience, that ability to provide information and analysis on international economic issues that is generally (though often, especially by Treasury, grudgingly) accepted by all agencies as objective has been a major strength of the intelligence community. It also argues very strongly in my mind against transferring responsibility for analysis of foreign economic issues to any one of the policy agencies. Even State, which has substantial resources and capabilities to collect and analyze information about foreign economic issues is not reliably able, when U.S. diplomatic and political interests are posed against U.S. economic interests, to overcome its inclination to subordinate the latter to the former.

Moreover, because the intelligence community must respond to all parts of the government and to Administrations and Members of Congress from different parties and with different philosophies, it cannot permit philosophical or ideological biases to influence its analysis. In that very important respect, it has the kind of cross-cutting credibility with policy makers that private think tanks and academics, however brilliant or expert, do not possess.

- **PROVIDE THE BIG PICTURE**

Now it is true that the policy agencies not only have a view, they have expertise. What the intelligence community can contribute here is not only its own expertise (which can be considerable on economic issues) but depth, context, and perspective. Few policy agencies can afford the time and staff to lay out the big picture which surrounds key issues and developments on the international economic scene. Few private organizations can do it on demand with the kind of prompt response and reliability that is expected of intelligence community

products. The combined ability to draw on wide sources, cross intellectual disciplines, trace historical roots and play out alternative future scenarios in documents that busy officials can read and absorb in reasonable time is a major contribution the community makes to our policy process. I commend to your attention the excellent yearly analyses of the economies of China and Russia as examples of what I mean here.

What sets these apart from similar efforts published by leading academic institutions and journals is not so much their breadth. It is, rather, first, the focus on issues that matter to policy makers; second, the comprehensive nature of the information sources on which the analysis is based; and, third, the sensitivity to the intentions and reactions of the policy makers in the foreign countries themselves. The last point, particularly, is important to the U.S. policy makers as they calculate the impact of a U.S. move on our interests in a foreign country and the likely response of policy makers and constituencies there.

- **EXPLOIT OPENLY AVAILABLE INFORMATION**

Part of the problem with information is not that it is scarce but that it is abundant. What to select to report and analyze should be decided not by the rarity of the source of the information but by the relevance to policy.

Japan is a case in point. As an open society, Japan has a huge volume of information publicly available about every aspect of its economy and business – even sensitive and controversial matters with direct bearing on issues between the U.S. and Japan. A good deal of this gets back to policy makers through

various intelligence community channels, including the Foreign Broadcast Information Service (FBIS). But an enormous quantity of information goes unreported and unanalyzed because Japanese language capabilities are a limited resource inside the U.S. government as they are generally inside the country. Here is an area where the resources of private institutions and organizations could fruitfully be put to valuable work in pursuit of our national economic interests.

Particularly vis à vis our major global economic and technological competitors like Japan, and the major emerging economic powers like China, the country needs to make a major effort at developing the language resources necessary to track key policy programs, institutions, organizations, firms, technologies and political and economic developments. The Japanese with vastly greater numbers of English speakers than we have Japanese speakers across all occupations and professions are doing this routinely today.

CONCLUSION

Mr. Chairman, I have no doubt that serious issues affecting the military security and safety of this nation will continue to have the highest priority in the work of the intelligence community. That is as it should be.

But, Mr. Chairman, it is a maxim of intelligence that where circumstances dictate the direction of policy, intelligence should follow. As we begin the countdown to the 21st century it is evident that some of the most important challenges to this country in world affairs will arise in the competition for economic leadership. On the success of American firms in exporting to and

competing in world markets will depend, in increasing measure, the livelihoods of our workers and the standard of living of their families. Their ability to compete on fair and equal terms in this country and in overseas markets will be greatly affected by the policies of foreign governments and the business practices of foreign rivals, and the effectiveness of our policies in responding to them.

Our economic policy makers face a world economic scene of increasing complexity, obscurity, and uncertainty. In the markets of our industrialized trading partners, the problems for our trade policies lie less in well documented and understood border barriers and bureaucratic red tape than in anticompetitive practices in the boardrooms and distributorships of private companies, practices about which information and documentation remain woefully inadequate.

In the emerging economies of once dormant second and third world countries, vast changes are underway that are creating new institutions, new opportunities, and new competitive challenges about which reliable data and information must be an important priority for our policy makers.

As the United States attempts to sort out the opportunities from the risks in all this change, solid facts, accurate assessment, and rapid response will be essential ingredients for successful policies. In a an uncertain world, what is certain is the need for information. That is where the intelligence community comes in.

Thank you, Mr. Chairman. That concludes my statement. I would be happy to take questions from the members of the Committee.

The CHAIRMAN. Thank you very much, Dr. Massey. If there is no objection from my colleagues, in order to be able to get some pursuit and continuity in our questioning I might use a 10-minute timer rather than five, and by example, I will try to show that if we can stick fairly close to that, we have the opportunity to get around.

Let me make a couple of general comments so that at least from my perspective you know where we are coming from on this or the way I feel about this subject. I have heard a number of people talk about the need to review the future of the Intelligence Community because the Cold War is over and it needs to be downsized.

To me, that is the wrong bias to come at a review. I don't have a bias that the Community needs to be built down. It may need to be increased. It may not need to be increased. I have no desire to eliminate or preserve any agency or anyone's job. What I want to try to do is to get a decision, a consensus about what the needs are going to be in the future and, then, develop an Intelligence Community that helps us to provide that need. This should assure some continuity, so that every two years or every four years we are not always making a change in developments that we have been able to move forward or shelve when some other entirely new idea comes in—although, obviously, we cannot completely close out the new ideas or technology.

I was also very interested in some of the things that a number of you said. I totally concur that there must be a very distinctive line between intelligence and policy, but that it is vital that the policymaker have the intelligence, that it is not filtered, or run through a political filter before it is received.

I have always felt that, regardless of the philosophy of the individual in the White House, the intelligence should be the same because it should not have any political bias. Now, the decision may be substantially different. I also appreciated the comments that were made by several of you about open-source information.

In the past, there was a great deal that was only available to us through more conventional intelligence-gathering capabilities. Today, we can get much through open source. But the challenges of what we can't get through open source are now at least as great or possibly greater. We don't have as much concern about nuclear weapons, even though they still exist.

Our greatest challenge for the future may be technology. The area that we are looking at and are very concerned about is informational warfare. How can somebody, especially given our dependency upon technology, prevent us from being able to use that technology, whether it is being done by a terrorist group, or some other actual enemy government. Those are real challenges that can have huge implications on our economy, on our safety, and certainly on our peace and survivability.

From the aspect of the National Security Advisor on the staff of the NSC, how do you—I was really interested, General Scowcroft, in your initial comment about the need for the DCI to have stronger control over resources—there has to be more activity, more involvement. How do you see that role in a stronger DCI?

Let's say that we provide the resources for them, that they do, in fact, have that capability; a much more broad line of control.

How do you see that role either complementing or confronting the role of the National Security Advisor?

General SCOWCROFT. I don't see them in conflict at all, Mr. Chairman. I think one of the difficulties is that many of the resources on which intelligence collection depends are under the operational control of other agencies, and, you know, those, like the Secretary of Defense, for example, he says I have to defend it in my budget. Therefore I am going to decide how it is going to be spent. It is those kinds of issues that I think the DCI needs more control over and there I see him and the National Security Advisor in a way as allies, the National Security Advisor trying to adjudicate among the DCI and the other agencies which control parts of the intelligence budget, so I don't see a competition at all there.

The CHAIRMAN. Let's do a pretend thing for a minute. I sort of divide intelligence in my mind into what we generally refer to as military intelligence—and that is collected more for the purpose of the military—and civilian intelligence, whether it is economic or whatever it may be. In many, many areas they overlap. But one of the questions I asked the six former DCIs, who sat at that table a few weeks ago in an open hearing, was to give me their impression, their feeling or criticisms regarding a Director of National Intelligence, someone who has control over all of the aspects of intelligence. I have often discussed this as an appointment that could be similar to that of the Director of the FBI; for an extended period of time unless there was a certain reason that that person should not be there.

Their first response, without exception, was that they would not agree with this. We pursued it a little further, and subsequent conversations have indicated that the main opposition was that they would not have resources. So I said, let's pretend—let's give them the resources. What if we had in the Intelligence Community a Director of National Intelligence, someone who has complete control over Community resources. Then under that person there are three major branches, all reporting to him or her. Let's say you have a Director of Military Intelligence. I would suggest that this person is a four-star and possibly sitting on the Joint Chiefs, so that he or she could tell a Commander-in-Chief, "no." Under this person would be the control of the military aspects. Then you might have a Collection Division—a Director of Collection—whose job is to collect information. They don't analyze. They don't have a dog in the hunt, if you will. They don't have a bias one way or the other. They just collect.

Then you have a person who represents the civilian intelligence aspect, again recognizing there is going to be some duplication in that effort. Give me your very honest thoughts about a concept such as that; where you have established individuals unquestionably in charge of intelligence; the collection, the analysis and dissemination.

General SCOWCROFT. Well, that is a different way to slice the pie.

That avoids some of the problems that I discussed and that is the DCI not controlling some of the resources. The handicap that I see is that if you separate the Director of National Intelligence from Central Intelligence Agency, for example, and make him this super-person, there is the problem of how he in fact controls the re-

sources or do you have to set up a whole other agency under him in order to let him manage the resources. And a lot—take—take the NRO, for example.

It makes sense to have that managed and run by the Defense Department because they are defense assets and they train the people and they are used to it. There is no reason to have them operated by anybody else even though the control over what they do and—and how they—how they are modernizing and so on should be under the DCI. I think the problem there is that you separate him from a base of power, frankly.

Now, the one—the one place where I think that works in the government is perhaps in the NSC with the National Security Advisor who does not have a separate agency of his own as a power base. But there he depends fundamentally on his relationship with the President and you can't have too many people like that. So I—I think there is some attractive features to it, but I—I have doubts whether in actuality it would be successful.

The CHAIRMAN. Any other comments from others—none required, but I just give you an opportunity.

Mr. KIMMITT. I agree with each of Brent's points.

What you would like in an ideal situation is to have a Deputy Director at the CIA so competent that that person effectively becomes chief operating officer for the CIA and therefore frees the DCI to spend more time in his capacity as the Director of Central Intelligence rather than just the director of the CIA. This is the way a lot of Corporate America is moving, with an office of the chairman, to free the chairman up for broader responsibilities and then have someone else responsible for those day-to-day operations.

I think it is pretty difficult to slice military versus civilian intelligence, and I think particularly in the post-Cold War period that becomes more difficult as we deal with these shades of gray. It might have been easier in the past, but even then, when one is collecting information on a Soviet launch test, is that military, is it civilian? Each agency, of course, felt it had a major stake in that collection.

I do find attractive this notion, though, of trying to ensure some continuity, perhaps on the model of the Director of the FBI, both because it provides continuity, but secondly think of the additional standing that that would give to the Director of Central Intelligence as one moves between and among Administrations.

I think in part if you come up with a new DCI at the start of every Administration like any other member of the Administration, they are trying to get their relationships right, trying to learn what is going on inside their own agencies and elsewhere. If someone has been through that bureaucratic side of it and can focus instead on Community-wide responsibilities and I would say, too, establishing particularly close relations with the National Security Advisor, the cabinet officers and the President, that is a better use of that person's time.

The CHAIRMAN. Mr. Dicks.

Mr. DICKS. On that point, though, it seems to me that it is hard to tell somebody, a new president, that he can't have his own person as the Director of Central Intelligence. It would seem to me that it would be hard to say well, this is the person you must now

accept and you are going to bring in the inner councils of your administration. I think that is a serious matter. What do you think about that?

I will hear from Brent, Mr. Kimmitt.

Mr. KIMMITT. The only quick response I would give is he is faced already with that situation, with his Chairman of the Joint Chiefs of Staff as the senior military advisor. As you recall, when the NSC Act was set up, there were only four statutory members, the President, Vice President, Secretary of State, Secretary of Defense. The DCI and the Chairman of the Joint Chiefs were cast as statutory advisors and that was strengthened in Goldwater-Nichols, as you well know.

Mr. DICKS. Right.

Mr. KIMMITT. Again, obviously I think a new president should have a lot of authority to task organize. He has got a lot of things going on.

And if you are looking for objective, nonpolitical advice, I think two of the areas, maybe three of the areas where you would really want to get that are in military, intelligence and law enforcement, and right now it is really only the DCI whom we think must change based on past precedent where as the others generally stay on.

I would hope that we would have a DCI, though, intelligent enough that if there were going to be a major personality problem between that person and the new Administration coming in, that that person would find a graceful way to exit. But you are right, you cannot guarantee that. It does remove some presidential flexibility, but again it is not unique.

Mr. DICKS. Brent?

General SCOWCROFT. Mr. Dicks, I think you have a very good point. I think one of the reasons that we have gradually gravitated from the early years of the CIA where there was not the conjunction of the DCI's term with the President to one where it has been more common for that very reason, and I think the chairman of the JCS is a little different because you have a Secretary of Defense as well which tends to blend those.

The FBI Director is also a little different. The President doesn't deal with the FBI Director every day and it—it is a more technical function and it is different. I think if—if you did make a DCI overlap, it would depend heavily, as Bob says, on the individual and there are some individuals whom we can all think of who—who could serve with distinction any president and who could establish his confidence.

Mr. DICKS. Right.

General SCOWCROFT. But I think if the President hasn't picked—and there is always the danger that then there is no relationship and the intelligence process becomes a purely technical thing and the President reads a paper and so on, but he has no interaction with the Director, that is a real danger.

Mr. DICKS. That is what I was worried about.

General SCOWCROFT. That is a real danger.

Mr. DICKS. I was interested in your comment on the consumer. Did I get it right? You are saying it isn't the consumer that should

be setting the priorities, that the DCI should be one who sort of anticipates what the problems are?

General SCOWCROFT. I am being very practical about it. The consumer doesn't—the consumer doesn't do it. We get these questionnaires from the CIA, list your six priorities in this, six priorities in that. I hand them out to my staff and they say, oh my God, here is another one, and they fill in the blanks of what they think the answer ought to be. That is not the real world. You ask the President and he says how the hell do I know?

Mr. DICKS. Whether it is going to be Somalia, Haiti.

General SCOWCROFT. Yeah. What I know is when I have a problem on my desk here, I want to be able to turn to the DCI and say what about this? What do I do about this? What do we know about that? And in advance he doesn't know. So from a practical matter, it has to rest with the intelligence agencies to be so organized that they can anticipate——

Mr. DICKS. They can anticipate by looking at the world.

General SCOWCROFT. Yes.

Mr. DICKS. The problems in the world. It doesn't take a rocket scientist. I mean maybe the PDD 35——

General SCOWCROFT. Yes.

Mr. DICKS. Which gives you some tiers of what is really important and that you have got to be on top of all the time. Maybe that is not a bad way to do it.

General SCOWCROFT. Absolutely. And you know, they have the people who sit there and watch Iraq all the time. State has some, but not from the perspective of intelligence.

Mr. DICKS. Let me ask you this.

Ambassador Kimmitt, I really like your idea of getting the quick response. To me, that seems to make a lot of sense for decision makers. You all have been in positions in the executive branch where you had to make these decisions. Is there a way to get them to give you that kind of a quick response as you have outlined in your presentation? Do they do that now? Is it being done?

Mr. KIMMITT. Again, I have been out for two years now. My understanding is that some efforts are being made, particularly using closed circuit television and obviously the rapid proliferation of secure PC's and other communication means to do that. What they have to realize is they are competing against somebody pushing one button, having CNN come on and having the whole thing unfold live in front of them.

And again, I think it is going to be tough for them to compete against that CNN stringer in a far off land. But, whether it be through secure FAX, closed-circuit television, greater links between and among the operations centers, I think they should strive.

If I were the agency, I would not worry so much about how the product looks. I do not need a five-colored map to let me know that there is a problem in the corner of a particular country. And I would in each case err on the side of timeliness and realize that sometimes when you pass that raw information along, it is going to be raw but it is better to pass it along.

You are not saying that it is a final Intelligence Community-approved product, but I would rather make sure the Community is relevant again to the fast-breaking events on the policy process. At

least in my experience over the last several years in which I worked, I would tend probably to hear from CNN first, the State Department INR maybe second and then the agency would come in third. It might be coordinated, it might have had a little bit more information, but sometimes the time line really just read them out of the process.

General SCOWCROFT. It is a real problem and on breaking crises, almost inevitably we hear about it first from CNN.

Mr. DICKS. Right.

General SCOWCROFT. And the problem with that is when you don't have a backup in the government right away is five minutes after it is on CNN, the press has microphone in front, well, what are you going to do about this and we don't even know what the facts are. So it—it is a tough problem. I don't think we will ever be able to match CNN but we need the capability to react much faster.

Mr. DICKS. Dr. Massey, on the economic issues, I think we should provide our government with the information in every negotiation but my instinct is that trying to give information, intelligence information to specific companies is a mistake. We shouldn't get into that unless it is an extraordinary thing where the country's security might be affected somehow.

What is your reaction to that on economic intelligence?

Dr. MASSEY. I completely agree. I think that it would be a mistake for us to be involved in what would in effect look like industrial espionage. That is not our business. That is not the point, it seems to me, of the collection and analysis of economic and trade-related information. It is to help us develop national policies.

There is a huge amount of open source information already available that the private sector can avail itself of. It seems to me that if we are dealing with trade and economic issues that do have impact on major U.S. competitive interests and the information flow is from open source—openly available information, firms ought to have access to that because presumably it is not confidential, secret, classified, but where the source of the information tends to require its classification, I don't think we should be in the business of sharing it with the private sector, no.

Mr. DICKS. In the Gulf War, General Scowcroft, we had about two or three days right before things happened where there was ambiguity about whether Saddam was going to come into Kuwait or not. How would you rate the performance of the Intelligence Community there?

This is one of those situations where we might have taken certain steps, done certain things. How did you feel about that?

I think that one of the issues that worries us up here is the warning question when we are in the situation where there might be an attack, like there was here.

How would you rate it?

General SCOWCROFT. I think the Community did pretty well. There were specific warnings, I don't know what, three, four days ahead on—that an attack was likely. The problem there was we had a major conflict between what the intelligence was telling us of increasing likelihood of a conflict and what our Arab allies who

knew this guy well were telling us. And what they were telling us is look, it is a big bluff, it is a negotiating ploy.

The worst thing you can do is to react to that because then you might trigger something. He—he is just playing games. And we heard that from the President of Egypt, we heard it from the King of Jordan, we heard it from the people who really knew him. So there was a real conflict there, but I—I would not blame the Intelligence Community from that and I am not sure what we—if we believed the assessment, I am not sure what we would have done.

Mr. DICKS. I am not going to go on further, Mr. Chairman, because my time has expired.

The CHAIRMAN. Right.

Mr. DICKS. I just want to make this one point.

This notion that this administration has that we are going to have 14 days of actionable warning time in situations like that where we can move all kinds of equipment to the Gulf or to Korea or somewhere else, I think is laughable. I think the situation you just described explains why that isn't a reality.

General SCOWCROFT. Almost never happens in such an ambiguous, unambiguous way that you are prepared to make major costly decisions on the basis of it.

Mr. DICKS. Thank you very much.

The CHAIRMAN. Mr. Castle?

Mr. CASTLE. Could I pass at this time, Mr. Chairman? I am just trying to catch up with what everybody has said so far.

The CHAIRMAN. Absolutely. Let's see, Mr. Goss is gone.

Mr. Skaggs.

Mr. SKAGGS. Thank you, Mr. Chairman. I want to first say good morning and apologize for not being here for very much of anyone's statement except Dr. Massey. We were here until late last night and we are going to be here late again tonight and I was catching up, so I am sorry to have missed the opening statements. If my questions seem even less well informed because of that, please be understanding.

It has struck me in my time on this Committee that there is a certain consistency that runs through a lot of the product that we see which I will overcharacterize as reflecting a kind of bureaucratic risk aversion, the "on the one hand and on the other hand" phenomenon. Given that one of the threads of your comments has been as much as we might want to devise a way of rank ordering threats and therefore areas to concentrate intelligence on, ultimately we have to rely on the Community to anticipate broadly and be prepared for the things that they might anticipate.

It seems to me that that risk aversion will also permeate the anticipations, that is, you will want to have a little bit ready about everything and what is ready about everything is also likely to suffer from the understandable tendency not to go out on limbs.

Is that too extreme a characterization? If not, is it a problem?

If it is, do you have any systemic suggestions about how to get at it?

General SCOWCROFT. I think it is a problem, Mr. Skaggs, and it is a kind of a human problem. It is not unique to the Intelligence Community or—or to any of us. There is a tendency for risk aversion. There is also a tendency to cover yourself.

I remember after the 1973 Middle East war where everyone was surprised at—at an attack by Egypt and Syria that I—I was routinely called at 3:00 and 4:00 in the morning with every kind of an indication of movement that another war might be starting. So you know, there—there is always that built in.

But I think we have to—we have to encourage, first of all, provocative analysis. Second, we need to encourage for the President the Intelligence Community flagging little things for him that off somewhere is something that is just a tiny cloud on the horizon but watch it. It may grow. And then it plants the seed in the consumer's mind and it is a very, very valuable thing. I think you—you have to deal with those things. There is no solution to it.

Mr. SKAGGS. Mr. Kimmitt?

Mr. KIMMITT. I would agree. The challenge for the Intelligence Community is that they have to be an inch deep in a thousand things all the time and yet when a particular issue arises, everybody expects them to have a mile's worth of depth on that subject and it is tough to shift gears from the general to the specific.

I think that is why, again particularly in this post-Cold War period when things that you could just never anticipate can turn into major crises, that we have to keep the intelligence sources and resources available to respond in situations that perhaps we could not even think up in a gaming session today. I do think going back to Mr. Dicks' point that one of the first responsibilities of a good intelligence officer is to have intelligence on what is going on inside the U.S. Government.

In other words, what is the policy community doing, what are they following? Obviously, if the policy community is going in a certain direction on Bosnia, that is going to lead to a certain set of responses that will require them to provide more intelligence. They should be closely linked enough on the policy side that they can anticipate that need to shift from the general to the specific.

Secondly, I think that with the resources that are available, they should look at ways to be able to shift resources quickly if they need to concentrate in particular areas. I remember back specifically to December of 1989 when we had just finished the Philippine insurrection against Mrs. Aquino. Then there was a flare-up in El Salvador. We also had all sorts of things happening in Eastern Central Europe, particularly with Ceausescu in Romania, and then of course the Panama operation happened. And you still expected the Community to tell us what was going on in the then-Soviet Union but they had to be very deep in those four particular matters.

The fact is they have to juggle balls both large and small all the time. I would argue that they need the resources to be able to do what is anticipated at the moment of crisis. Again, the closer they can stay to the people who are going to be managing those crises I think the better chance we have of them anticipating them.

Dr. MASSEY. I think that is true on the economic front, too. When we get into trade disputes with our major trading partners, we need to be able to understand what the likely response of economic decision makers, the negotiators on the other side of the table are going to be to the steps that the United States takes. I have to say I think probably as a consequence of economic issues not having

the instant crisis kind of characteristic that so many political military ones have that in my experience the Community has served us well in that regard.

Mr. SKAGGS. Just probing a little bit more on this anticipation issue, which I think haunts us all. I always want my staff to anticipate better which is another way of saying please read my mind even when I don't know what it is. But maybe there are mechanisms that could help us and let me just put to one side for a second the point that General Scowcroft made a few minutes ago that the President wants to throw out your priority list because he wants to be able to know whatever he wants to know when he wants to know it. But perhaps looking at, if you will, some of the less central responsibilities in support of USTR or Commerce or Treasury. Would it make sense to devise a means by which they have to put their resources on line in support of the Community's anticipation of their needs, in which their priority lists would really be meaningful not just submissions by providing them with some kind of special drawing rights, if you will, on intelligence resources so that they would be forced to anticipate and to budget in some sense consistent with their anticipation of their needs in areas that may not affect national security in quite so profound and therefore compelling a way and at least test out putting the burden on the customer to really inform the Community in a fiscal sense what they need.

Dr. MASSEY. It seems to me as General Scowcroft mentioned earlier, we also constantly were getting those questionnaires about priorities. I think our response was a little less irritated because it was helpful to us as we developed policy vis-a-vis our trading partners, what were the issues, who were making the decisions, what the priorities ought to be and in laying out our negotiating objectives, et cetera. As Mr. Kimmitt said, it is important that the Intelligence Community be following the issues closely and I think that they have done a good job on that.

The Intelligence Community has far greater depth of expertise on the trade and economic issues we have with the trading partners who matter most to us than most private sector institutions have. And because they are closer, they are able to be responsive. It is not so much always a formal priority setting process that works but rather an informal interplay between the two communities, the economic policy community and the Intelligence Community that serves us well.

Mr. SKAGGS. I don't think I put it very well. What I wanted to try to get at and let's take USTR as an example, is the "free good" issue of the economic relationship between the customer and the Community. What about giving USTR its own intelligence budget separate from its normal operating budget, a piece, if you will, in funny money, not real dollars but again a budget on which you could draw for intelligence products during the year. Presumably, that would force USTR to be a little bit more careful about when it asks for support and prioritize that accordingly.

Dr. MASSEY. That is an interesting notion. I am sure USTR with its tiny little budget would welcome any additional little increment to that budget. USTR is a peculiarly small place, about 160 people in total.

Mr. SKAGGS. It is better than being a small and peculiar place.

Dr. MASSEY. I teach at one of those, "a small place, but there are those of us who love it," as a former Member of this body. I am not sure it is necessary. I would like to reflect on whether I think it would be desirable.

My sense is that USTR has a long tradition of dealing not only with the Intelligence Community, but with all the rest of the policy community as a recipient. It is so small that its principal obligation is to coordinate things so it is accustomed to going out hat in hand on a quite informal basis to all of the agencies, not only the intelligence agencies but to the policy agencies looking for facts and looking for consensus, as well.

Whether it ought to have a separate budget in the Intelligence Community—frankly I don't think they would want it. I think there is an awful lot of information currently being produced that USTR feels able to draw upon. They would love more budget but I think they would rather use it for travel and negotiating.

Mr. SKAGGS. I didn't mean to suggest—and my time is up—that they would want it. It is whether it would be, from our point of view, a legitimate and useful tool to force on ancillary agencies that draw on Community resources, a way of establishing and living by priorities so that we wouldn't have to guess in our efforts to put a budget together.

Thank you, Mr. Chairman.

The CHAIRMAN. I thank the gentleman.

Mr. Castle, do you still wish to yield?

Mr. CASTLE. If I may proceed, I have a couple questions at this point.

The CHAIRMAN. The gentleman may proceed.

Mr. CASTLE. Let me thank you for being here and again like some of the others, I have to apologize for the schedule here. We have a Republican Conference "must attend" meeting this morning and things of that nature we have to attend to. I have had a chance to read Dr. Massey's statement and Ambassador Kimmitt's statement. General Scowcroft didn't have a statement in here, but his views are generally well known anyhow, so we can proceed from there.

My question is sort of general. I assume, from what I have heard you say today and reading your statements and knowing where you generally are, that none of you favor doing away with the Intelligence Community. It is a question of what we are going to do in the next few years to try to make intelligence better.

I am concerned about the change in targets from what is seen to be, really, almost a Russian-focused operation with some satellite countries that were a problem, to a broader mission.

Do we bring in the economics of trade? How do we deal with terrorism, which I happen to believe is a growing phenomenon and one which tends to jump quickly across country lines even if the incident is, at any one time, in a particular country. The whole concept of the proliferation of weapons, nuclear weapons, and the growth of major countries, particularly China, also issues.

As a person who is new to this Committee this year—this year seems like about five years, we have been here so long, but I guess it was just January of this year—I am still trying to learn as well.

But I also worry about the delivery of intelligence. I worry about policymakers who disregard it. I worry about if it is delivered correctly.

One of you mentioned when I came in, maybe I read it in here that some of the reports tend to be a little mushy and you can tell that somebody is just trying to beg off of trying to come to a hard decision. Is such reporting really worth anything?

I am also concerned, frankly, about how our Committee works. Does this work in the way that it should? And sort of cutting through whatever you said so far, I was wondering if each of you could think about one, two, three, whatever relatively small number of things you would absolutely prioritize in terms of the changes you might want to see in the way the Intelligence Community works, the way the Intelligence Community delivers its product, the way the policymakers receive it, assimilate it and make judgments from it, and the way this Committee works.

I would be interested in your highest priorities. Not just a laundry list of all the things that should be done, but those things which you think we really need to focus on for changes in intelligence delivery.

General SCOWCROFT. Well, let me start with one. I think one of the—one of the highest priorities we need now is—is to improve our ability to collect useful human intelligence. I think that is going to be more critical as we have more actors around who can make—who can make trouble, not Soviet Union kind of trouble, but actual trouble and it deals with the subject of terrorism, of weapons proliferation and so on, and our satellites overhead are priceless but they don't do those kinds of things very well.

And unfortunately, that is—is personnel intensive and when I hear the Community talking about reducing the number of stations and it did—and instead having regional intelligence groupings and then when there is a crisis somewhere, they would beef up in a particular place, that is the wrong way to go about human intelligence.

What ideally—what you need are people in place who may do nothing for 10, 15, 20 years but when you need it, they are there and they can respond. That is very hard for us to do just as people. We want to know how, you know, how is he producing today? What—what is happening, and I think that is the major problem we have to grapple with.

Mr. KIMMITT. I think, number one, it is important for the Intelligence Community to make sure that the product that it is producing today gets to the policymakers as quickly as possible. We have talked about that before.

Sometimes it is providing information rather than finished intelligence, but I think the quicker that that can be provided, the better, and going to Mr. Skaggs' point, I do not want people to provide "on the one hand this, on the one hand, that" type information. Report it straight out.

If you have an assessment, a comment, go ahead and put that in. You might do a little bit more analysis later but get your best thoughts in front of the policymakers as quickly as you can. If you get something from your warning staff that you are not really sure is warranted, pass it on to the policymakers. Say: "We have got

this from the warning staff. We are not yet ready to make this an Intelligence Community judgment but we want you to know some smart people are thinking this way." So, timeliness makes the product relevant and useful.

Secondly, I think we really do need to look for creative ways to get the intelligence and policy communities closer to one another while still maintaining that important dividing line between the two.

Going to Mr. Skaggs' point, I do think we need to look for practical ways, but I am afraid if it were mandated by the Congress, you would probably see the Administration spend two to three years debating the implementation of that mandate and therefore I would try to encourage some of the change that is going on now.

For example, there is some thought of a more customer-driven approach inside the CIA. I have understood from conversations that they are looking at putting together a small cells of people who might oversee the information provided to USTR or to State or to Treasury. I think that is a good idea. And, in a practical sense, I might ask USTR to send a person out to sit in that cell to make sure that there is a good link between the two and maybe the agency sends someone over to USTR who has the link at the other end. I think that practical approach is probably better than trying to do it through the budget or through legislation because again that would just spark a debate that I am not sure would be helpful.

Also, going to one of Brent's points, I really think embassies are underrated as a source of very good intelligence. You get these young political officers in the State Department out on their first assignment, these people are out every day talking to key people in the political parties and elsewhere, sending good reports back. Those reports are eventually put into all-source information, and I think we need to find ways to synergize their effort a bit better.

I personally would like to see more DIA people in the field in embassies working to help get a sense of truly what is going on rather than working through a double filter. Also, we have been encouraging lately exchange programs with foreign ministries in other governments. I think that is a good idea, too. There is a State foreign service officer who is working in the foreign ministry in Bonn and one from the German foreign ministry is working at the State Department. You have to be a little bit careful on classification considerations, but that cross detailing inside our government and between governments, I think, is helpful.

The last point that I would emphasize is one that Joe made. Throughout our testimony runs the theme that anything you can do to encourage greater attention by America in general, but the policy and intelligence communities in particular, on language training, would be terrific. We are getting killed in many places, both in the international marketplace but also in the marketplace of policy and intelligence actions, by not having the language skills that a lot of our competitors do.

The agency and the Community probably has done better in general than almost anyone else in this regard. I would like to see that permeate throughout the government. Just going to some specifics, Mr. Castle.

Dr. MASSEY. Mr. Castle, I am sure all of you noticed that all the attention has been on human intelligence and vis-a-vis the economic sphere, that is what we need. I am delighted to hear Ambassador Kimmitt reinforce the points about language capabilities. If you go to China today, you can go to the farthest province, the most remote town and there will be some Japanese businessperson or some official from JETRO or one of the agencies of the Japanese government out there collecting information, living in the economy, understanding how things are working.

We need to be able to do that. This is an American intelligence and information requirement. I am not sure it is necessarily an Intelligence Community requirement because, as Bob Kimmitt said, indeed probably the Community has more and better capability in that regard than virtually any other sector of the American life with the possible exception of academia when it comes to these hard languages.

I would like to see the Congress, as you consider budget priorities, look at the ability of the United States to develop the kinds of business people, diplomats, intelligence officers, et cetera, who are language trained, able to live in a foreign culture, produce the kinds of information necessary for us to make informed and correct judgments about what policies we ought to be following in places like that.

Another dimension of the human intelligence vis-a-vis economics that I think is very important, is a good perspective on how our initiatives are perceived, evaluated and likely to be responded to by the negotiators, the officials with whom we are dealing in the foreign countries.

We just don't have, I think, a completely adequate grasp of that. In this regard, I was happy to hear Bob Kimmitt mention the embassies because the State Department has a terrific corps of people not only in the political sphere, I would say, but in the economic sphere, as well.

And if I were to make one particular point about all of that, there is often a conflict about how we ought to be dealing with our trading partners, particularly those with whom we have politically important, positive relationships. You know, "the most important bilateral relationship in the world, bar none," was how Ambassador Mansfield used to describe almost daily the relationship we had with Japan.

Unfortunately, that sometimes became the basis for concern that straightforward, unambiguous, sometimes difficult reporting on economic issues not get back to Washington until it was processed, processed to ensure that the political relationship was not damaged by the flow of negative economic information. My sense is that one of the ways we could improve how the State Department helps Washington policy makes develop, collect, understand the necessary economic information in instances which we have significant American economic interests at stake is to remove the filter.

I don't think the economic minister in an embassy overseas should have to have his cables on economic matters cleared by the DCM for political reasons. That is going to be fairly controversial at this table, I would suspect, but it has been, I can tell you in my experience, a problem particularly vis-a-vis Japan.

Mr. KIMMITT. Mr. Chairman, can I just respond on that point? The CHAIRMAN. Please do.

Mr. KIMMITT. I was a political appointee, not a career foreign service officer, although I have tremendous respect for the foreign service, and I have heard through the years a lot of things about these political filters, but I had never served in an embassy before I went to Germany in 1991. I saw very little of that filtering during my tour there.

I mean, if it is happening, I think it must be happening in Washington and, frankly, I do not remember that much of it. I think we have a group of people who basically tell it like it is. We did make a structural change in the embassy in that I was trying to encourage much more clearance of cables without them having to come to the front office, that is, either the DCM or myself, unless a policy recommendation or a particular course of action were being taken.

When I got to the embassy, the staff said: "Boy, we are glad you are here. We have just been getting harassed by all the people in Washington." I said: "Let's turn the harassment around. We have a six-hour time difference on them. If you have a cable on that guy's desk in the morning, then he is going to have to spend the day responding to you. If you wait for him to come after you, I promise you he is not going to be as well informed as you."

I think there have been instances through the years of political filtering. I am not saying it doesn't take place. But, if you take a look at a cable report and it comes again from a young foreign service officer in his first or second tour, I think they call it like it is and they get very, very detailed, particularly on the political machinations. If I am going out against a guy who is a trade negotiator, I also want to know what is the issue most on his mind politically because, remember, their negotiators are elected politicians in most cases. And for that, I would call immediately to that economic minister who probably had lunch with the guy a week before, who knows what is going on inside the party and all the rest. So I would challenge the embassies, to avoid that political filter by using them more.

The CHAIRMAN. The gentleman's time has expired. We will continue to go down this road.

For the political filter not to be in place, there is a linkage that has to happen between those providing the information and those willing to listen to the information, and simply having the product available does not solve that problem. We have to be able—there has to be a willingness to receive information throughout the entire chain and that, I think, has been one of the frustrations that we have had.

I totally concur with, and was very glad to hear, all of your comments about human intelligence. In today's world, with the finite budgets that we have, we cannot cover the entire world at one time, and we have to have a lot of the technology programs—that I call "portable"—that have to be very portable—be able to be moved very rapidly. The least portable is human intelligence and it takes years to develop it.

I certainly take to heart your recommendations that there be some long-range looking at this because we have to provide that

opportunity. We have to provide the funds, number one. If your intelligence budget is being budget-driven rather than policy-driven, there are going to be some sacrifices along the way and we have to recognize that long-term need, provide the opportunity for it to happen so that you can have those people who speak those languages and that are interested in going to those places. Very honestly, that doesn't always happen, particularly if people who want to go abroad see that opportunity becoming less and less. They are going to probably look for some other career.

So we have to do some long-range planning and thinking to accommodate that, but we simply cannot send somebody into Iraq a week after they invade Kuwait and expect to be able to get any human intelligence. We had better be thinking about that in the long term and I—this Committee—is very concerned and interested in the human side.

Sort of leading me back to where I left off initially. The final comments related to the difficulty in dividing civilian and military intelligence. It is extremely difficult because you don't know from day-to-day whether the intelligence is going to be for a military operation or whether it is going to be strictly for the policymakers to look at. I don't know how to divide it. I don't know that one can.

If we had infinite amount of money to spend, every branch of the military and everybody else could have their own collection capability and analytical capability, but we don't have that. And so I want to come back to that a little bit.

In my very broad chart of Directors of National Intelligence and Military Intelligence and Civilian Intelligence, there was a third person there on that same line and that was the Director of Collection. You know, these are all obviously hypotheticals, but it does give us some opportunity to explore.

In the purest world—and I really want to look into where the fallacies are in this—if we have someone there who is in charge of collection and you are taking a resource in the military and putting it to use against a military weapons program, then you need another agency whose job is to collect. And basically they are tasked each day. The tasking may come from the Director of National Intelligence, but it may be something driven by the Director of Military Intelligence. "We have a particular need." Or it may be strictly on the civilian side, let's say it is terrorism and law enforcement rather than military.

So we have a need, and we must go out there and try to collect that. If we don't have the capability, from a budget standpoint, to duplicate a lot of these efforts—duplication would probably be good if we could afford it—then we better know that what we are collecting is very good and we better be able to depend on it a great deal.

Tear apart the idea of having an agency whose job is to collect. They don't really know what the use will be. So, if it is a military requirement, the military does the analysis, if it is a civilian requirement, the civilian side does the analysis of it. How wrong, or how bad off, would it be to have someone in charge of doing collection and nothing else?

Mr. KIMMITT. I suffer a little bit by not remembering the details of how this was done when I was in government and what changes might have come into place. I actually thought that, although there

were struggles among people as to what the collection priorities should be, that the collection interagency effort was really working as well as any part of the interagency effort.

There was sometimes disagreement among the policy people about perhaps what the priority should have been and so forth, but my impression is that there was probably less chance for certain political influence down there. Once the policy community was fairly clear of what its priorities were and the Intelligence Community good at anticipating those, that the collection side of it seemed to be running fairly well.

Now having said that, again, as I mentioned in my remarks, I have not worked inside the Intelligence Community. I imagine you have given a lot of thought to this because of some concerns that you have seen in this regard.

But again, Mr. Chairman, I would say on the collection side, I thought that once one had reached the point of saying "this is what we want," the interagency process seemed to work fairly well there. The one problem that I saw—and perhaps a proposal of this sort would address it, is I think reflexively people look perhaps to see if this could be collected through a technical means because that is seen maybe as a little more risk-free. If in fact you need to put more emphasis into the human collection side of it, you would want to make sure that there is a way to have a proper balance between technical and human collection means. In that regard, I don't know whether it is so much an agency or a director within an agency who might help make sure that you do have a proper balance between those two sides of technical and human collection means.

The CHAIRMAN. Well, I think both should support each other. Hopefully they come to the same conclusion and verify each other, but it is hard. You can see the troop movements from a technical facility, but you don't know what the commander is thinking which is what you hope human intelligence provides. They do complement each other.

I may not have made myself clear. Here is what I am getting at. We have difficulty here, to some extent because intelligence doesn't have a natural constituency. Now, let me go a little further on my Director of Collection. Consequently, if our job is to help develop or work with the administration to develop what I call an intelligence architecture, that is by looking at the process by which we will collect intelligence end-to-end, it ends up in a finite defense budget, competing with a weapons program that certainly has a constituency because of the tens of thousands of people that work for "X" company that built "X" weapons. Then, it makes it much more difficult to properly get the funding for intelligence.

And rather than having to compete with that, let's say that you have the Defense Department that for all practical purposes plays no role in collection. Their role is to take care of armies and air forces and navys and marines, and the Defense Department and the people who would normally sit in this room, the National Security Committee are not even going to have anything to say about collection systems.

Let's say it is just going to be the Intelligence Community that is going to decide on collection systems. So you don't have the Air Force out there collecting; you don't have, let's say, any of the mili-

tary branches collecting intelligence themselves. All of that function goes.

On the other side, you don't have the NSA being pulled one way. You don't have the NRO being pulled one way. You don't have someone in charge of the human aspect of that who has no control over NSA, pulling in that direction.

Surely there is coordination and there can be taskings from the military. But the goal that I am looking at is what about having then a person that is on the same level as your Director of Military Intelligence and your Director of Civilian Intelligence whose job it is to control all aspects of collection; all of the technical means, all of the human means, and, basically, it is like your shipping department in a company.

You know, with a shipping department, they don't care where it is going. They don't care who wants it. Their job is to ship it. And so your role as Director of Collections is that I as the Director of National Intelligence, say, "This is what I want you to go do."

Then you just go do it. You don't know why. You don't analyze it. You don't know what the end result is. You just collect the information.

Again, that may not work at all. But what I would like to see is, since we can't have a lot of duplication, a streamlining so that we can put more resources into making sure that that streamlining does a very, very good job and again, although there could be holes you don't have all of these people out there pulling collectors in various directions. You have one person deciding. Where I am coming from on this is that the military for all practical purposes, is out of the collection business if they were in it today.

General SCOWCROFT. That is a very interesting idea. I will be honest, Mr. Chairman, I don't know how collection priorities within the Community are laid out as it is. The military is in the collection business so—in terms of order of battle, weapons systems and so on, they are very big and they have a very vested interest.

It is less than before, but it used to be that their budgets depended on the threat that they presented. So they still do collection. I think—I think there is some merit in—in centralizing, if you were, the tasking of the collectors. I don't—I don't see much in getting all the collectors in an agency because the embassy is going to do political intelligence as a part of their regular thing, the military, the attaches, so on and so forth.

But I think in—without knowing how, precisely how it is allocated now, I think there is—there is some merit in—at a time when we do have to reduce duplication in assessing collection, so that it is done effectively but not—but not wastefully.

The CHAIRMAN. And that is it; you don't want to leave any gaps in collection. My time has expired. These are things I want to try to pursue.

Mr. Dicks, I will yield my time.

Mr. DICKS. Thank you, Mr. Chairman.

Basically what has happened here is that we have got all these groups that are looking at this, the commission and this Committee and the Senate Committee. I have kind of gone back and forth about radical restructuring versus do no harm. In other words, we

have a pretty good Intelligence Community out there, it works pretty well.

Maybe we can fine tune some things, but to completely restructure it, I have some reservations about that. Having said that you basically have the CIA, you have the NSA, the Defense Intelligence Agency, the DIA. Did you see in your experiences any areas where we could make some reductions in—I mean we have really downsized. We have come down I think below what President Bush wanted or what President Clinton wanted without getting into specifics.

We have really reduced personnel, we have reduced the budgets. There is less money going into intelligence. And yet they still seem to be able to do a very good job, in my judgment, except for the DO where I think, as Brent mentioned, we have got some very serious problems.

Any areas where we could make some further reductions? Or you think it is time maybe to level off and stabilize the budget for the Intelligence Community?

General SCOWCROFT. I guess Mr. Dicks, I think it is time to level off and see where we are because you know, the nature of the threat has changed so dramatically that we may—we may already have gone too far. Because the kinds of things that in the Cold War we would have brushed off as minor irritations, now are kinds of all-consuming because there isn't anything greater and if only for the political liability and the effect on our reputation and interest they become really big issues.

And therefore, we probably need more expertise in more areas of the world than we used to. You know, one of the things, you mentioned the Gulf War before, you know, for us before the war started, Iraq wasn't a big issue. It was a side show. We didn't spend all our time watching what was happening in Iraq and so on and so forth.

But those kinds of things now are the big foreign policy issues we have to deal with and all of them take resources. So I think this drive to economy and the Cold War is over and therefore we can cut back, especially in intelligence, I think it may be the wrong way to go.

Mr. DICKS. Now, basically what Woolsey and Deutch did on this issue about the DCI and the Defense Department, they were able to get together and, of course, they knew each other and had a good working relationship, and were able to, in essence, work out the budgetary issues. Is that a model that should be pursued or is that—you talked about strengthening the role of the DCI and the Community responsibilities. That means, in my judgment, there would be more authority in this relationship between the DCI and the Secretary of Defense in terms of sorting out the budget.

Now, is that a realistic way to go?

General SCOWCROFT. Well, I think it is a great way to go, but I don't think you can always depend on moving people from defense over to intelligence or have the kind of close personal relationship between Woolsey and Deutch to rely on because it is not always going to be there. But I think there needs to be a greater willingness to look at the overall need rather than the agency prerogatives and just because something is in the defense budget doesn't

mean that defense ought to pay no attention to the ultimate user of that.

Mr. DICKS. I think you suggested, too, that this is where a strong NSA Director—

General SCOWCROFT. Yes.

Mr. DICKS [continuing]. Could play a role in terms of trying to make certain that the intelligence part of the budget is adequately protected in the context of the decision making about what is going to be spent for various things within the Intelligence Community.

General SCOWCROFT. Absolutely. Absolutely.

Mr. DICKS. Does that need to be formalized in any way or is it—

General SCOWCROFT. Well, it—it probably couldn't be because it has happened differently in different administrations. But in the Ford administration, we had a fairly serious problem between—between the CIA and Defense and my Deputy Bill Highland spent a good part of his time working with Defense and CIA to resolve the budget issues. It worked—and it worked out fine, but it took an awful lot of effort.

Mr. KIMMITT. Mr. Dicks, can I just follow up on that point?

Mr. DICKS. Yes.

Mr. KIMMITT. It is really a sort of truism: you can have the best structure in the world, but if you have the wrong people, it won't work. You can have a bad structure, but good people can overcome the deficiencies and make it work.

I do think, though, that I would try to encourage the Director of Central Intelligence to operate really at the cabinet level and form those relationships with cabinet counterparts, even if he or she does not have cabinet status. I think that is sort of a phony issue myself, since that is the level at which that person should operate.

I was just thinking and going back to Bill Hyland and others who have done the Deputy National Security Advisor's job, that the Deputies' Committee that exists inside the Administration, which is really for policy formulation and for crisis management, could be used very effectively for budgeting purposes.

OMB does a good job on the nitty gritty. But I would get the Deputy National Security Advisor, the Deputy Director of OMB, the Deputy Director of Central Intelligence, the Deputy Secretaries of Defense, State and Treasury, all of whom have equities at play here, and try and get those things worked out. Obviously, if it needs to be referred up the chain, so be it.

But I would really try to encourage that interaction and choose the kind of people in that group who are going to interact well. In general, I would agree with Brent that I think we need to assess the consequences of the cuts that have come thus far.

My own view is that there probably is a bit more room for consolidation in Washington. Right now, it seems to me that most of the cuts—and here I start thinking of the State Department again—are overseas. I think that might be a little bit misplaced.

Mr. DICKS. Especially for the State Department. I am told by high level officials in the State Department, that all those bright young people you are talking about are no longer out there at the levels that they have been in the past. The balance between those

open source collectors and what we are doing in the Intelligence Community has shifted somewhat.

Mr. KIMMITT. That is a very crucial problem. I think that it is twofold.

Number one, with the cuts that are coming, you are going to have smaller embassies. Secondly, the message being sent to the bright young graduates of our best institutions is that the foreign service is not a growth area of the future, so let's look at other opportunities.

And I think that one of the reasons that I so strongly supported the consolidation proposals of Jessie Helms and others having to do with AID, USIA and ACDA was not to do away with certain of those functions. I think they are important. But by consolidating those functions inside the State Department, getting rid of that triple overhead, my hope was that some of those resources could be devoted to keeping good, young officers out in the field.

And as I look at the raft of intelligence information that someone gets each morning, I just wonder if we don't have a lot of the same people at CIA, at DIA, at State/INR and elsewhere looking at the same issue and is there some possibility for consolidation. They are setting up task forces, but more needs to be done.

Mr. DICKS. In Washington, D.C.?

Mr. KIMMITT. In Washington.

Mr. DICKS. Then keep the people out in the field? That seems to me to be a very good idea.

Mr. KIMMITT. That would be my thought.

Mr. DICKS. Let me ask you, General Scowcroft, you mentioned the condition of the DO and the situation on covert actions, and I will tell you this is one area where I am very disappointed, and it is not just because of the Ames case. There was Guatemala and other situations where the DO has not kept Congress and I think sometimes the administration, the White House, briefed on some activities that have gone bad.

How do we get that thing turned around? I think having a good directorate of operations is important to the country, but we clearly have a very serious problem, and it is not one that is over yet. I think there needs to be some—we need to address that. Any advice from the congressional perspective or from your perspective about what Congress should do or not do?

General SCOWCROFT. I think there is a fundamental problem in DO, and I think it goes back a long way. It goes back to the days of Jim Angleton, who rightly or wrongly saw a double agent sitting behind every desk in the CIA, and nobody was above suspicion, and he did his job very, very thoroughly, but the problem with that was that it led to a demoralization in the DO that, you know, the sense that nobody was trusted and so on and so forth.

When Angleton left I think the pendulum swung so far the other way that it became sort of once you had passed your initial screening and gone in, then you were a member of the club, and it was destructive of morale, of the esprit, of the closeness that you need in the DO to question and to look behind these things to see what kind of car people drive and so on and so forth. I think that kind of culture developed and it turned into a kind of a cover-up culture, and that plus the emphasis on recruitment led to some pretty seri-

ous kinds of things, and, you know, I don't want to say any more in this forum.

Mr. DICKS. It is hard in an unclassified setting to get into it in any great detail.

General SCOWCROFT. That is not going to be cured lightly. It is fairly fundamental, and it is going to take some fairly drastic measures, I think.

Mr. DICKS. Thank you.

Mr. DORNAN. Mr. Skaggs.

Mr. SKAGGS. Thank you, Mr. Chairman. I wanted to quickly follow up on one of the comments Ambassador Kimmitt made earlier about the usefulness of getting some DI people detailed out into embassy settings to the extent you can talk about that, and in a session like this I am intrigued with it whether you can elaborate a little bit as to both costs and benefits.

Mr. KIMMITT. There was a program, I don't know if it still exists, whereby the DI used to send people out for short periods of time. I think for some reason they used to come out during the summer to spend three or four months with us, and—

Mr. SKAGGS. Get them out of Washington like any sane person.

Mr. KIMMITT. Life was a little better on the Rhine than the Potomac, I guess. I think it was a great step because they got to meet face to face a lot of these young political officers who then introduced them to their contacts. And remember this is all open source collection and open source reporting, and I have got to think then when they went back they had a better appreciation for what was coming out of the embassies and also the embassies had a better idea of how what they were turning up was being utilized.

My sense would be that a longer-term detail, roughly the type of two-year details that agencies have with people at the NSC makes good sense. I would have to say, Brent, that the one wish I would have would be that everybody in government would have a chance to spend a two-year tour at the National Security Council to see how things come together, and I think some terrific young intelligence officers have served there through the years, including Bob Gates.

Bob Gates and I were somewhere around the 50 mark on the priority chart in the NSC staff under Brent years and years ago, and we came along pretty well. I think that is a cross-agency fertilization that is very important. I would like to see more of it in Washington. I would like to see more of it between Washington and the field. That is probably all I should say here. There are a couple of other points I would want to make, but I probably shouldn't do it here.

Mr. SKAGGS. Mr. Chairman, perhaps we can at some point pursue this in regular hearings with personnel people from the agency. Maybe more of it goes on than I am aware of and we all just need to play catch-up.

General SCOWCROFT. Mr. Skaggs, I think this is a way around the problem—I said that the President doesn't know what he needs until he needs it. A kind of interaction at the working level between the analysts and the consumers in the field and so on is the way to get it done, not through formal questionnaires and what are

your priorities, but sitting down and talking to the people who are working the policy desks, that is the way to do it.

Mr. SKAGGS. Thank you. I am sorry Mr. Combest isn't here. I have been away and have returned to the Committee and just wanted to express my support for what we are engaged in this morning and what the Committee has been doing earlier in the year, which is kind of a zero-based intellectual exercise, as I understand it.

With that in mind, obviously, if we are not asking the right questions, no matter how forthcoming you all may be, we are not going to learn what we need to learn, so I wanted to literally turn the tables on you if we might.

What are the threshold questions that this Committee ought to be asking about intelligence in the next century, which is what the IC21 symbolizes. What are the premises that we ought to be examining if we are going to make a useful, informed set of judgments in collaboration with what is going on in the administration about this kind of fundamental question?

General SCOWCROFT. I think one of the questions that the Committee ought to explore is its own role and how it relates to the overall task of collecting, disseminating intelligence, what should the Committee be doing, how should it interact. You know, it is not too long ago that the Congress played a very, very minor role in this whole operation, and that role has mushroomed really since 1975, and I think it is time to look and see to what extent the Committee can make its own contribution to the process.

As I suggested in my comments, it has gone clearly beyond the oversight role into the almost in some ways a partnership role with the Intelligence Community in the intelligence business, and that has some potential for increasing confrontation between the two branches, but it also could contribute significantly to a better product all the way around, and I don't have an answer to this, but I know some of the struggles in the Bush administration between the Executive and the legislature were turf battles and battles which took a lot of time and energy which better could have been spent with both sides trying to figure out how we can better get a product that is useful to the country.

Mr. SKAGGS. Are there other observations?

Dr. Massey? I hope you were making notes about my question and not what you need to get at Safeway.

Dr. MASSEY. I was making notes about your question. It seems to me that the Committee itself ought to be looking in some substantive way at what the likely most important challenges to the safety and to the welfare of American citizens are as we go into the next century. We talk about definitions of national security, et cetera.

Presumably, the role of government is to promote the welfare of our fellow citizens, not only their security, but how well they are doing in terms of all of the things that matter, not only their lives but their livelihood. I think one thing you ought to be looking at is to what extent should we in government, should the Intelligence Community and the policy community be rebalancing priorities, economic versus military versus political in the kinds of information priorities we have, collection priorities we have, the kinds of

allocations of our resources that we make to those activities. I think that is an enormously important one.

Secondly, I would say that we have a certain blush of enthusiasm about the end of the Cold War, but within about 20 years if the World Bank is right, we are going to be the number two economy in the world and China is going to be number one in terms of total economic output. How much do we know about them and what are we tracking about them? I would hope you would start thinking in terms of the fact that we don't have a frictionless, enormously amicable relationship with the country out there that presents the most likely challenge to at least our economic leadership.

I would have to defer to my colleagues here about the questions of military and political strength, but certainly on the economic front if the World Bank and others are right, the next century is going to be the century in which China comes into its own economically and far outshadows us in total economic output. I hope we are going to look very carefully at what we know, what we don't know, and how we go about filling in the latter. I think that is enormously important. That leads to the third question, which is the flip side of the timeliness question.

A lot of these issues require strategic, long-term lead time to develop the capabilities to make the analysis that is worthwhile. We talked about human intelligence and the resources that we need to develop—these young foreign service officers with the capability to report on what is happening in Guangzhou and in Urumqi; in China. We need more of them, we need better of them, and we can't do that tomorrow. A six hour time limit might be vital for military intelligence. But laying the foundation for first rate economic intelligence—we are talking six years or 16 years, and we ought to be doing that. Those are some of the things that occur to me.

Mr. SKAGGS. Thank you.

Mr. KIMMITT. I would associate myself with both Brent and Joe on that. I particularly associate myself with Joe's comments about China. There are day-to-day issues that I am concerned about, but on a long-term basis, I think, on a comprehensive basis—political, military, economic and intelligence—we need to be doing a better job on China.

Just five other quick points in response. Number one, I think it would be good for the Committee to give the Intelligence Community some idea of what the budget glide path is going to look like over the next 5 to 10 years because I think an awful lot of what can be done is going to be obviously constrained by resources as we move toward, let's hope, a balanced budget by sometime early in the next century. Secondly—

Mr. SKAGGS. If you would like to tell us how to get to a balanced budget, we would be glad to go beyond the scope of the hearing.

Mr. KIMMITT. I know we are supposed to be nonpartisan, but I happen to have a certain fondness for a certain seven-year plan.

Mr. SKAGGS. Sorry I asked.

Mr. KIMMITT. You opened it up. Secondly, my guess is that we are going to still have the Intelligence Community looking structurally a lot like it does today. I think there is some tuning that can be done, not just fine tuning, but I think a major restructuring

is going to be quite difficult without avoiding serious disruption at a moment in history where I just don't think the threats are going to allow us to take time off to get it right. But if we are going to have these various sources of information, the one thing I would say is the Intelligence Community can beat CNN not on an individual information bit basis, but they can beat them on a comprehensive basis and if something is reported by a CNN stringer someplace, one thing the agency should be able to do very quickly is tap in and see what else we know. When that microphone is thrust in front of the President and the National Security Advisor, the best thing that he or she could say is: "Yes, we saw that report, but we have also learned that..."

It shows that we are on top of it, and the agency, again, I think, should try to put some emphasis not just on timeliness but comprehensiveness. To some degree I think that gets into a third point, and that is are we looking for a risk-prone or a risk-averse Intelligence Community or risk-neutral? I think they are very risk averse right now. I think a combination of actions over the past 20 years has made them one of the most cautious of our agencies, although that may not be the impression that is out there.

Indeed, I would argue that the filtering of intelligence is done much less for policy reasons anymore and more desire on the part of the Intelligence Community to get it right or to avoid getting it wrong, and they will delay and delay until they get that final little piece of the puzzle and sometimes that is really too late. I think the message that is sent by the Congress in this regard is very important whether it be on intelligence collection or other means.

Fourth, I would say, look very closely at that relationship between Washington and the field. When I say the field, I mean on an interagency basis. I think in a world, particularly a world of the sort we are going to face in the next century, I would err on the side of having more of my people out on the front lines, decentralizing by pushing good people out there particularly for collection, analytical, and representational purposes.

Then lastly, I would say that the CIA can't do it alone or the Intelligence Community can't do it alone. If you think of the four strands of national security policy—political, military, economic, and intelligence—it is only in the intelligence area where we don't have alliances or multinational groupings, whether it be NATO, the G-7, APEC and ASEAN and so forth.

What we have done with foreign intelligence services has tended to be done on a bilateral basis and certainly that will have to continue, but I would look a lot more closely at some of the concepts that have worked in other areas; that is, groupings of like-minded nations, burden sharing, and so forth. I think that that area, that is relations with people overseas, is still caught up in a world that was based on things that were happening right around the time that the CIA was created.

Mr. SKAGGS. Thanks very much.

Mr. DORNAN. Thank you, Mr. Skaggs.

Gentlemen, I would like to ask a positive question about the overall value of the whole Intelligence Community to our country and its leading role to try and bring some stability to the world. I spent about seven hours on Monday, six hours up at the National

Security Agency, and, as happens with every Member who spends any time up there, it takes your breath away—with the capability, the dedication of all the people. I think, someone retired from the Intelligence Community could write, if not a best selling book, a great scholarly work that would be appreciated by all on the course of history in this century, starting right before World War I, leading to the intelligence gathering capability that we have today. Not a bad idea for a book, right, General?

Would we have even gone into World War I, if Colonel House and President Wilson had the eyes and the ears, just an embryonic satellite program and the listening capability of SIGINT around the world. With this capability obviously, Pearl Harbor would not have taken place. I think that is a given. We would have moved all of that intelligence around more quickly. Or if it had taken place, we would have had a submarine screen northwest of the Hawaiian Islands and probably done some serious damage.

To bring it up to the whole Cold War situation and reading your bio, let me start with General Scowcroft. When you first got into the policy and the intelligence business, let's say in the Pentagon in the beginning of the Vietnam War years when you were assigned to headquarters U.S. Air Force, September 1964.

I remember a debate that I had as a 30-year-old on Halloween eve against the then head of the American Nazi party, an ex Navy pilot and officer, George Lincoln Rockwell. I remember saying in that debate that we have less than 200 killed in action in Vietnam. Is that figure going to grow? You were one month on the job there. If you had had the listening ability now put together with probably what was an excellent defense attaché structure which you eventually did in Belgrade, of all places, what different course would we have taken in 1964 and 1965 if we had had the SIGINT ability of today and the satellite architecture of today?

General SCOWCROFT. Mr. Chairman, that is a really tough one. I guess I am somewhat less sanguine than the tenor of your remarks indicates that we would have done it fundamentally differently, and I guess that is because I think intelligence is one input, it is not the only input, and it is subject to all the frailties and interpretations, A, it may be wrong; B, it may be incomplete; C, the President may have some other things in mind; D, the President may not like intelligence, you know.

President Nixon, for example, had deep skepticism about the CIA and wouldn't read the morning brief. I don't think you can answer the question. Pearl Harbor still might have taken place because even three days after or two days after Pearl Harbor the aircraft in the Philippines were still lined up wing tip to wing tip and all destroyed on the ground after information about Pearl Harbor, so there isn't a direct line connection between intelligence and actions. That sounds like it is downgrading intelligence.

I think the problem is without it if we had no—suppose we didn't have any intelligence. I think the error rate would go up. Better intelligence, I don't know how much it would go down.

Mr. DORNAN. I think that is an interesting answer. Ambassador?

Mr. KIMMITT. I think that intelligence is, as Brent said, part of the answer, but it is not the answer in and of itself, and within

that I would say technical intelligence is part of intelligence, but it is not intelligence in and of itself.

What I would think is that it would have helped in the circumstances that you described to have better technical collection means. I would argue back then, though, and certainly today we could have used a lot more people on the ground reporting on what was truly going on, be it inside Japan, be it inside Europe and elsewhere.

I think that sometimes people talk about improved human intelligence as though we had done it right in the past. I think that we had the capability of better human intelligence years ago. We didn't have the capability on the technical side. As we have come forward, we have improved significantly, I think, on the technical side, but on the human side whether it be the CIA, State, or who ever in the field, I don't think we have really kept pace.

As I look to the future and maybe to someone who sits in this room 50 years from now and says: Gosh, in 1995 wouldn't it have been great if we had had—I would tend to think that we are going to see a fairly linear progression of technical capability and it is going to be linear because I think that though capabilities are going to be geometric, the human ability to internalize and use them is going to not be able to keep pace with the technology and therefore I think it will be linear.

On the human collection side, the face-to-face side, I think that is something that we have a lot more control over through budget resources and things of that sort. The most recent example I can think of is out of my experience in Germany. The Germans have now spent half a trillion dollars to try to get the eastern part of their country up to some semblance of parity with the west. The expectation is they will continue to spend \$100 billion a year for at least the next five, maybe another 10 years to get the east up to parity with the west.

Mr. DORNAN. Topping a trillion within five more years?

Mr. KIMMITT. Absolutely. That is guaranteed.

Mr. DORNAN. Is that borrowed money? That is the way we would have done it. Is that debt now?

Mr. KIMMITT. It is a combination of borrowed money and the specter of budget deficits, something that they had not faced before, but it is on the back of an economy that is strong and rebounding at this point. Chancellor Kohl, when he visited here in the spring of 1991 was talking about "flowering regions in the east" in just a few years with no need for tax increases and that is exactly what they have had to have: massive tax increases to fund this. The fact is our and their intelligence about what was really going on in the east was just horribly out of place.

People talked about the east as being the crown jewel of the Warsaw Pact. Well, it was a small jewel in a very tarnished crown. If we had had people on the ground just going into some of those factories and seeing that this was 1930s technology, that the infrastructure was as decrepit as it was, neither he nor we, I think, would have made some of the assumptions.

It is hard to get that from five miles up in the air. There are things you can get from there and other collection means, but I would just really emphasize getting people on the ground kicking

tires, looking inside doors as a complement because otherwise I am afraid 50 years from now if all we think is the technical means are going to help us in that direction, we will have some of the same disappointments that we do looking back 50 years.

Mr. DORNAN. Let me just go back to General Scowcroft for one second. When you came in as National Security Advisor for a second time under President Bush, could you feel the difference in what had happened at the Central Intelligence Agency with the loss of 700 or more people who had experience on the ground?

General SCOWCROFT. Yes. The first way I felt the loss was the diminution of capability on the covert side, and I felt we had very little capability to undertake any covert actions.

Mr. DORNAN. Especially in a crisis situation where you needed it quickly.

General SCOWCROFT. Yes.

Mr. DORNAN. Dr. Massey, when you said this prediction of the World Bank—if you just base it on population, nothing else, China is five times the United States in size exactly and growing a little more at the top end than we are—I thought right away of the Rockefeller line that if I can sell one oil lamp to everybody in China, it will be booming. But there wasn't much market for that and there still isn't much market for a lot of what we, in a cursory way, think is a market there. I still think there is going to be a lot more people getting burned in China in the long run, as they are getting burned in Russia, and I am convinced they are going to get burned in Hanoi or Saigon.

Do you think that—and, again, when you mentioned China, I thought about a classified briefing we had yesterday and a classified briefing we have coming up and a classified briefing that we had a few weeks back, all in the nuclear, biological and chemical category, the separate briefings—do you think that—intelligence in the domestic area, in the trade area can be of a great assistance in how we search for proper markets instead of wasting a lot of time with cultural differences and spinning our wheels?

Dr. MASSEY. Yes, I do. I think there is so much that we don't know about what is happening outside a couple of major metropolitan areas where we have business people and diplomats on the ground. Once you leave Beijing and Shanghai and you are out into the countryside, even when you are in Shenzhen and Guangzhou there is such a great deal of activity, so much is going on that we have got to be able to get a grip on if we are going to understand who the competitors are, who the potential partners are in China, whom we can be sourcing from, whom we ought to be trying to develop as markets.

There is a huge amount of information we don't understand. We also don't understand what the political structure really is that affects our ability to get there. Does Beijing make the rules or does the Governor of Guangzhou make the rules in Guangzhou and what happens when there is a dispute? What is going to happen with Hong Kong?

I believe vis-a-vis China there are three predictable crises we ought to be looking at in the near future. One is July of 1997. Here you have Hong Kong one of the most open, most vibrant economies in the world, about to be reabsorbed into a society in which State

bureaucracy still plays a very important role. What is the significance of that for us economically and in terms of competition, in terms of access? What is the significance for economic values that we hold dear? The second crisis is the death of Deng Xiaoping. What does that mean for China's economic reforms and for the political relationship with the United States? It is amazing. He is holding out as an immortal rather well, but that is not going to go on forever. Are we looking at the implications of that?

The third crisis for China, which is imminently predictable and we ought to be looking at because it is going to affect our children and our families in the 21st Century, is the crisis of the environment that the tremendous increase in the consumption of carbon fuels in China is going to create. Already there is an acid rain problem that the Japanese are facing. I don't know whether you have been to China recently, but each time one returns to China there are more and more internal combustion engines running around. Talk about one billion people, imagine one billion Chinese driving automobiles that are putting all of that stuff into the atmosphere.

Mr. DORNAN. Even Henry Ford's four-cylinder model T, every man driving it and enjoying the countryside.

Dr. MASSEY. But you often can't see the countryside in China as a consequence of the smog that is already developing. This is going to have a major impact. I predict how we deal with China environmentally it is going to be a significant policy problem for U.S. policymakers in the next century. Putting politics and economics and technology aside, how do we deal with the impact on our environment of all of this.

But to return to your market question, clearly China is going to be an enormously important economic actor. We don't know enough about it. We ought to be focusing more of our resources, and I think along with Ambassador Kimmitt that those resources absolutely need to be human resources.

Mr. DORNAN. Mr. Skaggs, did you have a final question?

Mr. SKAGGS. Or even two?

Mr. DORNAN. Two, absolutely.

Mr. SKAGGS. I had only one and then I am intrigued by Dr. Massey's last homily on the environment. Ironically, we are zeroing out the environmental task force initiative that had been put in place recently, and leaping to a conclusion that you might find that ill-advised, I wanted to really ask you and others to give us your thoughts about the appropriateness of intelligence resources going to environmental issues broadly defined, whether that includes air and water quality questions or what is happening with major watersheds or agricultural base or population trends, those sorts of things.

Mr. DORNAN. We didn't zero that out, the environmental task force, just reduced its funding.

Mr. SKAGGS. I exaggerate, I am sorry.

Dr. MASSEY. Well, I can tell you on the trade front——

Mr. SKAGGS. I think whatever we might have done in the authorizing legislation, we did take them to zero in the defense appropriations bill, Bob, so that is——

Dr. MASSEY. I can tell you on the trade front that it is very likely that the next round of multilateral trade negotiations will involve

trade and the environment. It seems pretty clear that as the multilateralization of the rules governing trade has proceeded in a very positive way, there have been significant concerns among not only Americans, but others about the impact on our environmental regulations or standards, et cetera. This is a concern that the GATT, the WTO is aware of. At USTR already three or four years ago just before I left they were already in the process of trying to figure out what U.S. trade policy vis-a-vis the environment ought to be. So and they started a practice of systematic interaction with environmentalist groups and American business on the implications for trade of increasingly stringent environmental regulations abroad.

So, yes, I think from an economic and trade policy perspective that we have to have a focus on the environment or it will be forced upon us.

Mr. SKAGGS. Ambassador?

Mr. KIMMITT. I agree that it is an important issue. I think, though, we have got to recognize it is going to be tough to get the kind of funding that would support an effort of the sort that you have described, and I would go to my point on burden sharing with other countries.

The environment is issue number one in Germany. The Greens Party there is on the verge of supplanting the Free Democrats as the swing party in that country. They have recently had this Brent Spar controversy where they got Shell Oil to back down regarding this offshore demolition of the platform. If you say to the Germans—"we have this intelligence capability, we will do this collection and share it with you but, oh, by the way, could you get a little bit more money from the Bundestag on environmental collection in far off places," that is easier for them to do than it would be for us, a little bit like getting development assistance funds for Africa and elsewhere. Those types of things are politically popular there. They are very politically difficult here. I guess my answer is that this is an important issue, but why don't we work with the people who can get the resources easier than we, and then share in the areas where we know that we have an edge already.

Mr. SKAGGS. A final question, if I may, and something I have been pursuing on the Committee, would you, again, as we indulge ourselves in these free ranging questions about how to fashion the best intelligence operation for the country, what ought to be our philosophy with regard to classification of information and subordinate to that what ought to be the philosophy of this Committee in pushing the Executive branch on discipline, on classification and as a complement effort on declassification?

General SCOWCROFT. Well, let me take a crack at it. I think there is no question that we classify too much. It is a bureaucratic tendency that needs to be fought. I would make a difference in part between raw intelligence and finished intelligence.

I think there is, in raw intelligence there is a great deal more danger that could be done by putting it out in its form, and it is much less hazardous when it is turned into finished intelligence with all the attributes around it. Within the Executive branch there is no question that there is a tendency to classify, to keep things close, to be in the know, and I think that we have got—we

get to the point where unless it has a classification mark on it you don't want to read it because it is obviously not important.

It needs to be attacked, we need constantly to say don't classify it, reduce classification, focus on the really important things, and not on the mass.

Dr. MASSEY. I would like to add something on that. I think we do in the economic field also classify far too much, and we ought to be relying on open source information far more than we do. I think it is really the relevance to policy rather than the rarity of the source that ought to dictate the information we look for.

There is one issue that arises sometimes that is troublesome to me as somebody who spent many years debating in the interagency process where our economic objectives and our trade relations with other countries ought to be. That is that unless we classify, we find ourselves frequently the objects of Freedom of Information Act petitions to reveal what the various agencies have been and what the decision processes have been that have resulted in particular negotiating priorities vis-a-vis other countries. So some of the tendency to classify, at least on the economic side, is to protect ourselves from Washington representatives who use our laws to ferret out information about which agency is coming from what perspective on a particular trade or economic issue, and being able therefore to help people adjust their strategies for dividing and conquering the interagency process.

Mr. KIMMITT. I would agree with Joe's last point. Interestingly, I think one of the developments is sometimes you are seeing people less likely to put something down on a piece of paper because if it is not on a piece of paper then it is not reachable by FOIA, can't be brought up in your confirmation hearing 12 years later, and I am not sure that is good for governance. It is certainly not good for history, but I can tell you, I dealt with a lot less paper my last two years of government than I did my first two years 20 before. Just three points on it, I would err—

Mr. DORNAN. For that reason, you dealt with a lot less?

Mr. KIMMITT. Oh, absolutely, oh, absolutely.

General SCOWCROFT. Yes.

Mr. KIMMITT. And the same thing, a lot of people said e-mail, coming on line, well of course e-mail is probably the most permanent form of writing. It is like pencil, a lot of people think you can write with a pencil you can just erase it. Well, it leaves sort of an indelible mark as does e-mail because it goes into a hard disk someplace. Much, much more policymaking is being done now on the basis of face-to-face contacts, telephone calls and things of that sort than was the case 20 years ago and in large measure because it is the most secure short, mid, and long-term way to deal.

I am not sure it is the most effective and the most efficient way, particularly when you want to get a readout on the meeting or something like that. Just three points. I would err on the side of nonclassification. It is self-protective. However, I think the higher the classification the quicker it is likely to leak, so if you want something to stay quiet in the near term, the lower level of classification or lack of classification means it is probably less likely to excite someone along the way.

Secondly, however, I think that for intelligence information sources and methods especially and FGI, foreign government information, we need to be exceptionally scrupulous in our classification and protection of that information. Otherwise it is just going to dry up the source, particularly foreign government information.

We have a different information disclosure regime than do other countries. We think that anything can be declassified after 5, 10, 15 or 20 years. Some countries don't agree with that. If we try to impose our system on them, they are just going to not talk to us in a way that is helpful. And then, lastly, again, once you have made a decision to classify something I think people who violate that trust and confidence, and that is what it is, should be dealt with severely.

Mr. SKAGGS. Thank you.

Mr. DORNAN. Well, gentlemen, I would like to close with a thought about American leadership. In your biography, General Scowcroft, the opening line says the forum for international policy advocates American leadership in foreign policy. I am also an advocate of that, and my seven years on the Intelligence Committee has made me even more so. There is a division, I guess it will always be there, in both ideologies that constitute the leadership of both of our major parties.

The shortfall in liberal philosophy that drives the Democratic Party is concentrated on domestic needs. Cancel all the space programs, for example. Stated rather simply, but you bump into it on the House Floor quite often in some circles. And in the conservative ideology that drives the Republican leadership, you can see it out there in the Presidential debates, one leading nonelected conservative does have an unashamed circle of wagons. An America first philosophy, which I thought was a discredited term from prior to World War II, says let's take care of our own house, forget the world, and let it take care of itself.

And one of the reasons that I can't accept that conservative lunge toward isolationism is in intelligence. Because America has the greatest assets on the technical side, satellite architecture and so forth, I am coming to realize that if other countries had our capability, the world would be more dangerous.

Here is my thought, but again, not getting near classified areas. If some nations around the world knew what we know about what their neighbors are doing, it would be a dangerous explosive situation. In many cases, ignorance is bliss for some nations. We know more than anybody else about what everybody else is doing or thinking of doing to everybody else, which we use to justify structuring our defense because they are the bad guys, it would be a more dangerous world than it already is.

So, I would just ask you to close on this: Is our intelligence capability and the knowledge that we derive from it, however we use it, one more reason that we cannot escape our historical role of leadership? Maybe you can give me some thoughts on that in closing. General Scowcroft how can we escape our leadership role? Why would we ever want to?

General SCOWCROFT. I think the answer to your question is, yes, it is one very important aspect of it, but I think that there is built in to the American makeup a kind of isolationism.

First of all, it has been the security we have had between two great oceans. We haven't had to be involved unless we have wanted to; secondly, until recently, it has been a great open frontier to our West, which has been a release for all of our energies and so on, so we sort of come by it naturally, but I think it has been extremely costly in this century, almost undoubtedly the bloodiest in human history.

Much of it has been avoidable, and we have played our part in making it a bloody century because of our turning inward as soon as the immediate crisis is over, and we are in danger of doing it again, and history is not a benign force, at least the last 7000 years don't indicate that it is.

The world right now is kind of a turbulent world, but it is a malleable world. There are no overwhelming threats right now out there. If we are able to manage with our own great resources, of which intelligence is one, with our friends and our allies out there, I think we can produce a world that is far better for our children and grandchildren than any we have had before, but it will take work at a time when it doesn't look like it is necessary.

Mr. DORNAN. Ambassador, based on your experiences where you straddled Western Europe and Eastern Europe, the biggest part of Eastern Europe, what are your observations about our duty because we have this superior intelligence and see areas where the world can spin off into even more bloodshed? What would your final thoughts be?

Mr. KIMMITT. I guess that after World War I we made collectively the worst set of national security decisions we have ever made by turning our backs on Europe and coming home and turning isolationist and protectionist and at the very least contributing to the Great Depression and World War II. A lot of those same tendencies that Brent mentioned were present right after World War II, where people tried to turn the slogan, "Bring the boys home," into a new policy of isolationism and protectionism. Fortunately, we had people who stood up to the challenge and recognized that the U.S. had to play that leadership role and that we needed to be active, engaged, and present overseas. I think in this third postwar period of the century, that is the post Cold War period, we face a lot of those same challenges and a lot of those same calls regarding what America's priorities should be.

Clearly, I think that to be strong at home we have to be strong abroad. That is not, though, a self-evident message for the American people. I think it is incumbent upon the American leadership to make that point even if focus groups are not turning up that as issue one, two, three or four. I think within that argument sometimes making a case for an effective Intelligence Community is particularly tough.

I think intelligence is essential, I think it is the foundation of an effective national security policy that protects our national security, but it should not be an inside-the-beltway story. When people are out on the stump, even if what is happening in local politics is of a lot greater concern or economic issues are of great concern, I think it is important to remind the people why America's leadership role is important to them and how we cannot assert that leadership effectively without a capable Intelligence Community.

Mr. DORNAN. Excellent. Dr. Massey.

Dr. MASSEY. Mr. Chairman, whether we have superior intelligence in the economic area is a question I think for us to consider and reflect upon. I am not sure that we do as a Nation.

Mr. DORNAN. I didn't mean to imply that, either, in that area.

Dr. MASSEY. For the Nation as a whole the decline in the dominance of the United States in world economic affairs, I think, we all have to acknowledge. If we look to our major competitors around the world, particularly the Japanese and others who have come on very strong in recent decades, a lot of the success they have had in challenging and keeping up with us has been the national effort that they have made in allocating the resources necessary to understand other markets, other economies, et cetera, and the capabilities in terms of language and business organizations as well as government that are necessary to create that information. So as we think about the challenges for the 21st century, some of those challenges are going to be economic ones, continuing challenges to our economic leadership, our ability to take advantage of the change to market economies in some of the former socialist economies, what is happening in China and elsewhere in competition with the Japanese, the Germans, and others.

We can't rest on our laurels. We can't assume that we do have the resources, superior resources in terms of information and intelligence. I think we have to play catch up, frankly, and I hope we make the kinds of decisions in the Congress and in the American business world necessary to do that.

Mr. DORNAN. Thank you, gentlemen, again, a great panel. I want to compliment my own Chairman, as Mr. Skaggs did earlier, that opening up what we can here in this discussion can only benefit fellow Americans' knowledge about the importance of our Intelligence Community. I am going to go over your submitted statements—better reading than most of the sound bite world we live in on the talking Ed shows on television. Thank you very much. The Committee is adjourned.

[Whereupon, at 11:54 a.m., the Committee was adjourned.]

"IC21" ENABLING TECHNOLOGIES FOR THE INTELLIGENCE COMMUNITY

WEDNESDAY, OCTOBER 18, 1995

HOUSE OF REPRESENTATIVES,
PERMANENT SELECT COMMITTEE ON INTELLIGENCE,
Washington, DC.

The Committee met, pursuant to call, at 10 a.m., in room 2212, Rayburn House Office Building, the Honorable Larry Combest (Chairman of the Committee) presiding.

Present: Representatives Combest, Dornan, Hansen, Castle, Dicks, Dixon, Coleman, Skaggs, and Pelosi.

Staff Present: Mark M. Lowenthal, Staff Director; Louis H. Dupart, Chief Counsel; Melissa S. Golder, Staff Assistant; Michael W. Sheehy, Minority Counsel; L. Christine Healey, Professional Staff Member; Michael C. Meermans, Professional Staff Member; Lydia M. Olson, Chief Clerk; Kenneth M. Kodama, Professional Staff Member; Mary Jane Maguire, Chief, Registry/Security; Diane S. Roark, Professional Staff Member; Timothy R. Sample, Professional Staff Member; Caryn Wagner, Professional Staff Member; Chris Barton, Professional Staff Member; Susan Ouellette, Professional Staff Member; and Mary Engeberth, Professional Staff Member.

The CHAIRMAN. The Committee will come to order.

I know there will be other Members that will be coming in, but I will get started with my statement so that we can try, as well as we can, to start on time and keep you gentlemen on time.

We appreciate very much your being here.

Welcome to the fourth hearing for this Committee's major effort in the 104th Congress, IC21: "The Intelligence Community in the 21st Century."

In the IC21 process, we are examining the roles, functions and responsibilities of the Intelligence Community in the 21st Century. Our first hearing featured six former DCIs, who offered their views on the organization of the Community and the roles and authority of the DCI. We also held an open hearing featuring former senior policymakers who discussed the interaction between policymakers and the Intelligence Community.

Although the first hearing on today's subject was, by necessity, a closed hearing, we are pleased to explore this topic further in an open forum. Today's hearing is a particularly important one, because it addresses the critical role technology plays in intelligence and what the Community and this Committee should be doing to manage and improve the application of technology to help meet national security needs.

During the Cold War, the U.S. Government developed unique, advanced technologies that consistently outpaced commercial technological developments in fields such as space, computers, and information displays. In fact, money invested in intelligence activities actually drove the development of many new technologies. The United States' technological edge during the Cold War contributed significantly to our success in detecting and stopping adversaries from harming our national interests.

If the Intelligence Community is to function effectively and efficiently in the future, it must understand where advanced technologies are headed and be able to develop or adapt such technologies for the collection, processing, and analysis of information.

Today, however, the government is no longer the leader in developing and applying advanced technologies—the commercial sector now drives cutting-edge technology. The commercial sector also has greater financial resources than the government to push technology advances even further. Given this reality, the Intelligence Community must fundamentally overhaul its industrial age procurement policies for acquiring commercial technologies in order to meet the intelligence needs of the Information Age. If the Intelligence Community does not alter the way it does business with industry, our national security will likely suffer.

Today, we are fortunate to have witnesses from the Department of Defense and from civilian industry. We welcome Dr. Paul Kaminski, Under Secretary of Defense for Acquisition and Technology; Norman Augustine, President of Lockheed-Martin Corporation; and Edward McCracken, Chairman and CEO of Silicon Graphics Incorporated. I note that Mr. McCracken will be receiving the National Medal of Technology from President Clinton later today. I, and all of the Members of this Committee, congratulate you on this achievement.

Our witnesses have been asked to share with us their thoughts on the following several questions:

First, what are the most promising enabling technologies for the Intelligence Community in the 21st Century in the areas of collection, processing, analysis and dissemination? Which of these areas will experience the most revolutionary change in the next decade?

Second, what types of technologies will be spearheaded by commercial industry and what areas might need government development because there is no readily apparent commercial application? How should the Intelligence Community work with industry in the area of technology development?

Third, if properly harnessed, what effect would or could these technologies have on the organization, functions and productivity of the Intelligence Community? Do you foresee any major shifts in the relative dominance of the intelligence disciplines?

Finally, what current obstacles do you see to the Intelligence Community's ability to incorporate and effectively use new technologies? What do you think needs to change?

We have received written statements from each of our witnesses and these will be entered as part of the formal transcript. We have also asked that each of you make an opening statement, and for the sake of assuring that there is sufficient time for discussion, we

have asked that you each limit your opening statements to about 10 minutes.

I would like to ask Dr. Kaminski to come up and proceed as our first witness and proceed with his statement. Then we will take statements from Mr. Augustine and Mr. McCracken, and when Mr. Dicks arrives we will have his opening statement.

[The statement of Mr. Dicks follows:]

**HONORABLE NORM DICKS
OPENING STATEMENT
"IC 21"
ENABLING TECHNOLOGIES FOR THE INTELLIGENCE COMMUNITY**

October 18, 1995

It should be obvious to any informed observer of intelligence that many of the striking advances in intelligence operations over the past few decades were propelled by developments in technology. It is also apparent that intelligence dollars have done much to drive the development of new technologies, resulting in improvement in the collection and processing of raw data, as well as the analysis and dissemination of intelligence information. Therefore, if the recent past is any guide, intelligence successes and technology development are closely intertwined and mutually supportive.

As the committee conducts its examination of intelligence for the 21st century, it is critical that it gets a firm understanding of near- and far-term technologies which have the potential for improving, and perhaps transforming, all aspects of the intelligence

enterprise. We should become familiar with new technologies that will extend collection and processing into new operational modes and against new kinds of data sets. I hope that we are also introduced to promising technologies that will facilitate new approaches for organizing and managing the work of the community.

The days when government monies and needs set the pace for technology research and development have passed. It is said that industrial needs and the commercial marketplace determine, to a greater and greater extent, what technologies are developed and to what standards. So, what are the implications of this for intelligence? What steps can the intelligence community take to leverage commercial development in ways beneficial to its mission? Will marketplace forces be enough to generate the technologies needed to push intelligence forward? Or, will the intelligence community have to continue to sponsor R&D in technology sectors which address its special needs?

The committee is extremely fortunate to have witnesses today with backgrounds and expertise well matched to the issues I've raised. They are all familiar with the technology needs of the intelligence community and knowledgeable of technology trends which could have a bearing on the community's future performance. I look forward to hearing their views on what mixture of private-sector and government-sponsored R&D will yield the best results for intelligence.

**STATEMENT OF HON. PAUL G. KAMINSKI, UNDER SECRETARY
OF DEFENSE FOR ACQUISITION AND TECHNOLOGY**

Dr. KAMINSKI. I will place my formal statement in the record and give brief opening remarks, if that is all right.

I will highlight three major changes we are seeing in the world environment that impact our intelligence use. The first is the overall world changes.

The mean value of the threat that the United States faced during the Cold War that came from the former Soviet Union has been very much reduced. But in its place, we are seeing an era in which the variant of the threats that we have to deal with is not reduced but increased. It is a more complex world for us to plan and operate in. In the past, the high ground of our national intelligence users was focused here in Washington. Today the military operator is also becoming a prime user in a tactical sense of day-to-day real-time operations.

The second change we are seeing is how we acquire our DOD systems in general, and in particular our intelligence systems, as well as how we make major cultural adjustments in our process for acquisition of systems, moving in the direction of commercial practices, moving in the direction that Mr. McCracken indicated in his formal written statement of becoming more of a lighthouse customer. We have more to do there.

Third, we are becoming more and more aware of the sensory overload phenomenon being experienced by users of the data. We need a process to turn the data into actionable information that we can use to make decisions and move on and I particularly note the ability to do that in the tactical sense that I spoke of earlier.

The first concept deals with the issue of battlefield dominance. The chart shows three circles. The first is the "Comprehensive Awareness," being aware of what is happening on an entire battlefield that may compose an area as large as 200 by 200 kilometers, for example. Having the tools to develop the data that is collected in that large area, to undertake the planning and command and control, to act on the data, to correlate that information with what we need for targeting and weapons delivery, to close a complete system and to create what I call battlefield dominance—that is the ability to turn inside of our adversaries in this process.

You asked, Mr. Chairman, for some sense of important enabling technologies for the future. I would like to highlight 10 key areas that I think will be enabling for the future. In fact, I would describe them as enabling pillars that we should be building upon.

The first is displayed via the next chart. It is the idea of the informed sequential application of our collection resources. What I have shown here is a chart with three axes. The axis going up and down shows the inclination to increase the area and the resolution of our major collection systems. We can easily forecast within the next 10 years tenfold sorts of improvements in combinations of area collected and resolution.

The axis coming out the right to the bottom talks about continuity of coverage, more systems covering larger areas, covering them during day/night and under adverse weather conditions as well. We can also see prospects for tenfold improvements in continuity of coverage.

The third axis indicates the spectrum, where we look at the information, be it in radar frequencies or electro-optical multi-wavelengths and we can see room for a tenfold increase in multi-spectral sampling. The problem is that if we make all these improvements simultaneously and produce products for the user, we are looking at 10 times 10 times 10 or more, thousandfold increases in the data to be analyzed and processed. That is probably not something we can deal with, building on all those axes at the same time. Neither could we probably afford the collection systems to move simultaneously in all axes in a way that one would fill that cube.

So the idea is not to fill the whole cube. It is to be able to operate sequentially to do some sampling, with technologies that may in a sensible way pick the appropriate path in that cube to produce information that can be suitably digested and acted upon.

The second technology building block or pillar in this process has to do with the creation of distributed and open architectures. You may think of these as plug and play architectures in which a variety of collection systems can play compatibly. Examples are work in our joint airborne SIGINT architecture, an architecture that can accommodate our large spacecraft as well as small satellites, UAVs, unattended ground sensors, and one which can accommodate and deal with HUMINT and other reporting information.

The architecture has to be able to accommodate commercial systems collection and processing and do so in a distributed and open manner. It will be a very important building block.

The third pillar has to do with a common grid means of indexing. The idea here is to be able to enter all the data that we have collected and to have a built-in indexing system.

A natural way to index is based upon the position where information is collected, and we can do that with the 3-D position tag on each piece of information and also with a precise time tag so we know when the information is collected. The combination of the previous two items, the distributed, open architecture and this kind of a common grid, gives us the ability later to go back and look at information that was collected at previous times in the same trails or to look at correlations of events that happened.

This kind of index will be very key to the development of very large dynamic databases that we will be able to use to retrieve and correlate information.

This common grid also opens up the opportunity to do some other things. I talked about gross position and timing. One could also look at fine position and timing, positions on the order of feet, timing on the order of nanoseconds. This would allow us to do coherent processing after the fact, not having to do the coherent processing, for example, in real time with a single aperture. This allows including collectors in space as well as those that may be on manned or unmanned aerial vehicles in this kind of a process.

The fourth pillar will be to continue to build on what has been happening in processing. Here a key issue will be the ability to do more on-board processing as well as to increase our capability to do off-board processing.

I would indicate the general trend by the next chart, a plot of something known as Moore's Law. What we see here, if I may draw

your attention to the blue curve on the chart, is the number of bits per chip; and the number of bits per chip also will go in proportion to the processing capabilities of the chip.

Since the 1970s, we have seen about a ten-thousandfold improvement in capability in which cost has been held nearly constant for that capability. We project that Moore's Law will continue as shown so that we have another thousandfold improvement yet to go in this process.

I would wish to make two points here. One is that there is an enormous amount of improvement ahead for us to make great strides in both on-board and off-board processing, and they are strides that will be needed to digest all the data collected.

Second, we do see an end to this linear relationship in Moore's Law. It is 10 or 15 years out. That end was seen 20 or 25 years ago and nothing has changed our forecast of it. At that time we will be getting down to device sizes in which we are dealing with geometries that incorporate only a few hundred atoms. So we will need to have some new physical principles to utilize devices that are that size to continue this expansion.

This is an area in which we will need some partnership involving government, a university base and industry. As I said, it is still 15 years ahead, but it is something that in five years or so we will probably have to be dealing with in a more systematic way.

The next major area will use the tools of this processing capability. It has to do with the whole field of automatic target recognition and productivity enhancement tools for our image analysts.

As we deal with the problem of sensory overload, we will have to do more and more automatically. We are investing on the order of \$100 million per year in this area, but it is an area which can probably be better focused. It will be key for providing the cuing for the sequential collection approach; that is, the ability on one platform to be able to detect what is of interest in a particular frame, and then to go back with either higher resolution or with multi-spectral imaging of a target of interest, and to do that without human intervention in the process. This will be one of the most critical pillars in the building blocks that I have been describing.

A sixth important pillar is data compression in dealing with systems to provide on-line storage of data where we may not be able to store the data at full resolution. I have spent some time seeing what is happening in commercial industry. Recently I visited CNN, who is putting on-line their first digital video storage system, and one of the keys is the compression techniques they are using to minimize the storage required to have large video databases on-line.

The seventh pillar has to do with databases. To the extent that we are able to store now all of this data, the ability to put those into systematic indexed databases, indexed in the way I was describing based on position, time and other key features will be key to our future operations to fuse data as a result of intelligent queries from these databases.

These databases will be key to providing reach-back capability and we must put critical energies into deciding what databases to deploy with our forces as they move forward so they do not have to reach back to the CONUS unnecessarily.

We need the ability to leverage off of commercial developments, and there is also some very high leverage work required here to develop something that I would describe as a mediator to be able to deal with the various disparate databases that will be out there—commercial, open and otherwise—that we will need to be able to access to do our job.

The eighth pillar is data storage. Here again, the commercial market is leading the way. The storage improvements were also indicated by the curves on the Moore's Law chart that I showed you earlier, and we have thousandfold or so improvement yet to go there.

The typical problem that we in DOD and the Intelligence Community face when dealing with a commercial base is our storage requirements are on the order of 10 to the 15th bits. We have recently developed a new commercial digital video standard high-end device that stores about six gigabits per disk.

The problem is how to use that kind of a storage system, as our foundation requires a million digital video disks. That is quite a large jukebox to put together the kind of capability that we need, and we are building on that kind of a base to create a usable architecture.

The ninth pillar is improved data dissemination. Here we are seeing great strides with global broadcast systems that can give us hundredfold kinds of improvements in the band width that we can transmit to our forces. What is being developed commercially today is a static global broadcast system where all receiver locations are known.

For DOD and intelligence use, we will need a dynamic system that can deal with users who are moving in the field whose location isn't known *a priori* and for them to be able to channel surf.

The 10th pillar of interest has to do with tools for planning analysis, the ability to move through these databases that I described so that we can fuse the various data that is collected to produce useful information and in that process to decide who it is that needs that information so we can disseminate it to the right place.

We will also be able to use these tools to improve our collection planning to consider all the various diverse systems operating in the distributed open architecture that I described, and to decide the best path ahead to employ each particular collector system in an organized and a responsive way.

We also need a set of tools to be able to decide what actions we want to take on the battlefield, how we should close with our forces, because we must have information and take decisive action to operate within the time lines of our adversaries.

I have one final chart that indicates this whole process, Mr. Chairman. At the center of the chart is this backbone or core, which includes the shared databases that I described, with the type of indexing approach and a backbone communication system to respond to queries, to connect deployed versus reach-back databases, then our various data collection systems operating in an open architecture, the dynamic sensor management that goes with them, the means to exploit the data, including the automatic target recognition kind of technology that I described, and the data dissemination tools.

In blue letters on the outside of this chart I have indicated some of the advanced concept technology demonstration (ACTD) programs that are underway today to pave new paths ahead, in many cases leveraging existing technology, commercial or DOD, and developing the application. The ones indicated are the Tier II plus UAV collection system, a program of semiautomated imaging processing and a program for battlefield awareness data dissemination recently started—all ACTD programs.

Mr. Chairman, that concludes my statement.

The CHAIRMAN. Thank you very much Dr. Kaminski.

[The statement of Dr. Kaminski follows:]

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Statement of
The Under Secretary of Defense for Acquisition and Technology
Honorable Paul G. Kaminski
Before the
House Permanent Select Committee on Intelligence
on
Enabling Intelligence Technologies for the 21st Century
October 18, 1995

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Mr. Chairman and members of the committee, let me express my appreciation for the opportunity to share my views on the acquisition of enabling intelligence technologies to support the warfighters' and national decision makers' needs in the coming century.

The Department of Defense and the U.S. intelligence community are adjusting to two transitions following the collapse of the former Soviet Union. The first is a change in the *targets* of our intelligence gathering efforts. The second is a change in the *sources* that provide us with intelligence gathering systems. The first transition affects what technologies need to be developed and fielded, while the second transition affects how we acquire those systems.

TARGETS TRANSITION

I would like to go back to our Cold War paradigm for a moment and observe how the targets transition has changed our defense planning and intelligence needs. Largely as a result of the efforts of people in this room, we had exquisite information about what was going on in the weapons systems of our principal adversaries during the Cold War. We knew their systems, not only those that were fielded, but those being developed. We had excellent information on the technical characteristics of

those systems. In most cases, we had very good information on schedules. We knew when their systems were going to be fielded. In this environment, we could apply an F=MA sort of action-reaction algorithm to define what was required to defeat those systems. We could make a convincing argument to Congress and to the American people on the countering system we needed to develop.

In those days, our intelligence systems were cued to a relatively stable, predictable set of targets for intelligence exploitation. Today, we must cope with an expanded range of ambiguous, unpredictable threats. To support foreign policy decisions and counter the proliferation of weapons of mass destruction, our intelligence systems need to be considerably more robust in collecting multi-source and continuous surveillance data as well as storing, processing, disseminating and managing much larger quantities of information. More importantly, the coming decades promise a quantum shift in the evolution of armed conflict. Our forces are being designed to achieve dominant battlefield awareness and combat superiority through the deployment of fully integrated intelligence systems and technologically superior weapons systems.

You will see a shift in emphasis towards enhancing delivery platforms -- ships, aircraft, and tanks -- with off board information and highly lethal, extremely accurate weapons. We received an inkling of what combat will look like in the 21st century during Desert Storm and more recently in our support of NATO action in Bosnia. In both cases, unmanned aerial vehicles have demonstrated the ability to provide continuous real-time battlefield surveillance. Moreover, we have employed weapons with great precision -- the bomb damage assessment photographs in Bosnia show no pattern of multiple surrounding craters and virtually no collateral damage. We are moving to a situation of one target, one weapon. This has been the promise for the past 20 years, now it is becoming a reality.

We have this precision strike capability today because someone had a vision 20 years ago. Today, we are developing a vision for other major changes in warfare – it is called the *Revolution in Military Affairs* or RMA. One of the key pillars of the revolution is the need to achieve something called “dominant battlefield awareness.” It means knowing everything going on in a battlefield – everything within an area that can measure up to 200 kilometers by 200 kilometers. The objective is to know where all the enemy forces are. It also means knowing the locations of all the friendly forces as well. This concept is the principal motivation behind the Army’s efforts to “digitize” the battlefield and Force XXI.

But dominant battlefield awareness is much more than knowing the static locations of forces. Commanders will need to know the combat readiness status or “state vector” for each force element. This includes knowing the readiness posture of friendly and enemy forces as well as having a prediction of the resupply needs of each force element. To complete the readiness picture, available logistics support and the need for future support must be propagated from each force element in the field through the whole logistics support system. This is what it means to have “total asset visibility.” To retain our edge on future battlefields, U.S. forces will need to have a shared situational awareness and common understanding of the battlespace. This includes the capability to process the larger volumes of data inherent in multi-, hyper- and ultra-spectral technologies.

Dominant battlefield awareness is critical, but it is not the whole story. It is a necessary condition, but not a sufficient condition to prevail on the 21st century battlefield. What one really needs is something I call “dominant battle cycle time.” This is the ability to turn inside an adversary; to act before the adversary can act. A more stressing objective is to be able to act before the adversary’s battlefield awareness system can see you act. In addition to possessing a dominant battlefield awareness capability, achieving a dominant battle cycle time capability means one also must possess rapid planning tools, strong command and control systems, and superior mobility. Commanders, battle managers and mission planners will need to

dramatically compress their timelines to bring the right sensors to bear; to identify targets from the background clutter using automatic target recognition (ATR) technology; to gather near real-time information from a variety of distributed worldwide data bases; to task the appropriate standoff strike platform; to perform bomb damage assessment; and to do so without exposing their intentions, information or information systems to compromise by the adversary.

SOURCES TRANSITION

Over the past 30 years, the evolutionary change in the industrial base that supports the DoD and Intelligence Community is no less dramatic than the changes in the world order since the demise of the Soviet Union. America's commercial markets have continued to expand. The rapid growth of the commercial industrial sector, driven by a commercial market flourishing quite independently of the government, has reduced the once central role of defense and intelligence spending as a driving force for innovation.

In aggregate terms, commercial industry surpassed the DoD in R&D spending back in 1965. The disparity between the DoD and commercial sector investment in R&D has been growing wider ever since. This difference means that relatively more of this nation's technological momentum will be based on what's coming out of essentially commercial enterprises.

The bottom line is that we have no choice but to move from separate industrial sectors for defense and commercial markets to an integrated national industrial base. Leveraging commercial technological advances to create military advantage is critical to ensuring that our equipment remains the most advanced in the world. A tighter linkage with commercial markets can shorten the cycle time for system development and reduce the cost of inserting technological improvements into intelligence systems. The Department of Defense and Intelligence Community cannot afford a 15-

year acquisition cycle time when the comparable commercial turnover is every 3-4 years.

The issue is not only cost. The lives of our soldiers, sailors, marines and airmen may depend upon shortened acquisition cycle times as well. In a global market, everyone, including our potential adversaries, will gain increasing access to the same commercial technology base. The military advantage goes to the nation who has the best cycle time to capture technologies that are commercially available, incorporate them in our systems, and get them fielded first.

MARKET TAILORED ACQUISITION

There is little doubt that the commercial marketplace will spearhead many of the key enabling intelligence technologies of the 21st century. Here's where a dual-use strategy will play a big role. The government's objective should be to marry the momentum of a vigorous, productive, and competitive commercial industrial infrastructure with the unique technologies and systems integration capabilities provided by our defense and intelligence community contractors.

We are reforming our acquisition processes to remove the barriers preventing us from leveraging the capabilities of commercial industry. I have been in my job for about a year now and it has become obvious to me that our fundamental need is to transform the risk averse culture that has grown up within the Department over the years -- to create an environment in which it is sensible for people to begin to take prudent risks, to streamline our program management and reduce our acquisition cycle time. We are systematically eliminating military specifications and standards on existing and new procurements, clearing the way to better access dual-use technologies and commercial products. Successful implementation of a dual-use strategy depends upon the Department's overall acquisition reform effort.

In some cases, the government is seeking to leverage off the commercial technology base without having the taxpayer make the entire root investment. In other cases, we are pursuing the "dual produce" concept where the government takes advantage of commercial production facilities to manufacture equipment for intelligence systems. Telecommunications is one such technology area. In areas where applicable commercial capability exists, the government must capture what is going on in the commercial sector, apply system engineering expertise, and field superior capability on a reduced acquisition cycle.

Where the capabilities are evolving, the government must seek to influence the establishment of standards and architectures as well as participate in industry led consortia to support the breakthrough developments needed to attract commercial investment capital. My sense is that government participation should often be on a shared investment basis. In cases where a market is not likely to develop within the immediate future, the government must make the root investment and compellingly communicate our needs through the authorization and appropriations processes.

For example, our need for advanced automated continuous speech processors in several languages is immediate, but current businesses and commercial pressures have yet to generate a market for these very advanced systems. This is also evident in high performance computing systems. We need performance in the hundreds of teraflops range (10^{14} raised to the 14th power); but, the super computing industry may be a decade away from realizing such performance levels in the systems it markets. Federally sponsored incentives or direct financial support will need to occur in many of these areas. Another critical area where commercial development may lag is in automation and robotics with special applications to intelligence functions. Automation has not succeeded yet—and is not likely to in the next decade—in yielding significant gains in general problem solving. Thus, the government may have to lead the way in developing automated tools for replicating certain intelligence functions.

ENABLING TECHNOLOGIES

Intelligence superiority rests upon three essential technology areas: collection, processing and dissemination. Providing balanced support to each of these pillars leads to the kind of robust intelligence structure that can provide effective, timely support to national decision makers while providing U.S. forces in the field with dominant battlefield awareness and dominant battle cycle time capabilities.

COLLECTION

As we look to the 21st Century, the most promising intelligence collection technologies will come into being less by technology push than by a growing recognition of the difficult intelligence challenges ahead. These include detecting diverse and highly covert efforts to design, manufacture, and hide nuclear, biological, and chemical weapons and their mobile means of delivery. The new and growing demands of our expanded notion of national security – including counter drug, economic, and environmental monitoring – dictate as well the nation's compelling need to exploit synoptic collection technologies.

The new threats are not easily discernible by current collection systems, especially for non-state actors. These threats will use largely commercial technology, which is commonly available. The U.S. must, therefore, re-examine assignment of collection between space-borne and other assets, and broaden analysis efforts to provide better insight to threat intentions and capabilities. A major investment is required in the technologies supporting human intelligence (HUMINT) and open source exploitation (such as the Internet and other network sources) to gain information on adversary intentions and capabilities.

We have created the Joint Airborne SIGINT Architecture (JASA) to provide a unified signals intelligence (SIGINT) architecture for all manned and unmanned

airborne reconnaissance systems. JASA will be an open architecture that uses a digital approach based to the maximum extent possible on commercial standards. Once implemented, JASA will be able to respond rapidly to changing collection requirements without large scale hardware changes.

We also have initiated programs to explore new uses of Unmanned Aerial Vehicles (UAVs) to provide long dwell synoptic coverage of the battlefield. The Defense Airborne Reconnaissance Office (DARO) is developing two UAV systems, the Joint Tactical UAV system and the Endurance UAV system, to provide the warfighters with flexible, responsive, assured collection of reconnaissance data. These two systems will include common ground stations for control and receipt of sensor data and a mix of vehicles to respond to dynamic and varied environments.

The Joint Tactical UAV system includes the Pioneer vehicle as a fielded interim capability, the Hunter vehicle which is currently in acceptance testing, and potentially a new close-range Maneuver vehicle. The Endurance UAV system includes three vehicle types: the Medium Altitude Endurance UAV, also known as Tier II or Predator; the Low Observable High Altitude Endurance UAV (more commonly known as Tier III minus or Dark Star); and the Conventional High Altitude Endurance UAV (Tier II plus).

Our high end intelligence collection sensors receive limited benefits from commercial investment. Although remote sensing technologies, especially space-based, have recently become important in the search for resource and mineral reserves, the identification of subterranean aquifers, or for long term climatic studies, the technologies being applied to the commercial problems are those that were developed and are already in use by the intelligence community. Those technologies seem to be sufficient for solving the commercial problems. However, there is little indication that private investment will accelerate needed improvements in the current state of the art in the collection arena. This will remain chiefly a government sponsored activity.

Several paths present themselves for investment. Synthetic Aperture Radar (SAR) and Moving Target Indicator (MTI) performance will be enhanced by advances in microelectronics, specifically in the form of low-cost solid state transmit receive modules capable of higher output, greater sensitivity, and more precise frequency and phase control. This will allow detection and observation of smaller targets and resolution of finer detail at night and in all weather conditions. In the imaging area, key technologies for the future will focus on the penetration of camouflage or foliage, the increase in aperture size or proliferation of synthetic aperture systems, and the incorporation of hyper-spectral technologies into operational systems. The Foliage Penetration Radar technology development program is focused on detecting critical mobile targets in shallow hide and camouflage. It is testing an ultra-wideband system that has the ability of penetrating the foliage canopy and detecting objects on the ground due to the low attenuation at VHF and UHF frequencies (200-900 MHz). The challenge is processing the images over very large synthetic apertures (25-45 degrees), removal of man-made interference (communications and television) and target detection in the presence of numerous large clutter signals (tree trunks). In a similar vein, Interferometric Synthetic Aperture Radar (IFSAR) research is focused on the rapid production of current and high resolution terrain data over wide ranging areas from airborne and space-based platforms.

While it is probable that incorporation of unattended collection schemes using artificial intelligence/decision making software to increase the performance of autonomous collection systems will benefit from developments in the commercial robotics industry, it is equally clear that cutting edge sensor research and the incorporation of nascent phenomenology schemes will still rely primarily on government investment.

PROCESSING

It is in the enabling technologies of processing where the United States is poised for revolutionary change in the next decade. Indeed, without changes of such magnitude, the nation will not fully maximize improvements in collection and dissemination technologies. Since the introduction just 25 years ago of the first commercial microprocessor (the Intel 4004), microprocessor performance has increased over 25,000 times. At that rate, the supercomputers of today are the laptops of tomorrow. The advent of small, high performance processors will enable increases in "on-board" processing and limit the rapidly rising demand for bandwidth.

Two areas of enabling technology stand out. The first is the much faster specialized computational power that could result from breakthroughs in optical computing, high-temperature superconductive devices, and improved packaging techniques. Second and related are anticipated improvements in mass data sorting and mass data storage. Much is made of the fact that only a small portion of collected intelligence data are ever usefully translated into actionable information. But there is enormous information value potentially available from processing otherwise banal data by means of mass data processing algorithms. Mass data storage improvements in such areas as holographic storage, for example, portend the capacity to store terabits/day today and more in the years ahead.

However, processing power alone does not have the ability to transform collected data into usable intelligence. As processing power increases and storage becomes less expensive, we face the prospect of drowning in data but with little usable intelligence. Other components of the information revolution, principally automated data processing paired with knowledge based and intelligent software, are required to provide the connection between raw collected data and militarily useful information. Another promising technique may be nested storage of compressed data in relational data bases. This approach permits decision makers, planners and analysts to have ready access to low resolution compressed data on a routine basis

while preserving access to high resolution data when the need arises. Many information intensive commercial enterprises, like the Cable News Network, are actively considering this approach in their strategic plans for next generation information management systems.

Advances in knowledge-based systems, machine learning, and information integration technology promise to dramatically improve the analysts' ability to monitor vast amounts of information. Steady progress in language understanding technology is creating the capability for computers to analyze, prioritize, and selectively route messages, news reports, and documents to interested analysts. Progress in creating larger and more comprehensive knowledge-bases is dramatically improving our ability to analyze information events and infer the meaning of those events. Machine learning and data mining technologies are enabling the capability to discover hidden correlations and relationships in masses of seemingly unrelated data, making it possible to analyze, correlate, and extract information from massive collections of open source or gathered material.

The need for highly specialized processing permeates the intelligence system, from special purpose front-end processors to high performance computing to analyst tools. For example, the Semi-Automated IMINT Processing (SAIP) Advanced Concept Technology Demonstration (ACTD) is developing and integrating state-of-the-art synthetic aperture radar (SAR) image analysis algorithms and human computer interfaces into a workstation-like environment, significantly increasing the productivity of today's Image Analyst. This can enable a decreasing analyst population to handle large increases in imagery product allowing expert analysts to process imagery at increased rates and novice analysts to operate at a higher level of accuracy. SAIP will revolutionize image analysis by dividing the workload logically between what computers do best and what humans do best. SAIP reasons in real time about low and medium resolution imagery. It cues the analyst and thus allows processing of much greater volumes of imagery than operationally possible today.

This is a single example of a multitude of tools, including automated target recognition, all-source intelligence correlation, multiple access intelligence nomination, and terrain and feature generation, that have just begun to apply the burgeoning field of knowledge-based and intelligent computing to the intelligence analysis and fusion problems. The further incorporation of advanced algorithms, such as multidimensional fast fourier transform, and of true artificial intelligence systems will continue this progression from simple data manipulation to true information generation. The marriage of these software advances to continued hardware processing advances will form the backbone for improvements in the analysis and fusion of intelligence.

Advances in distributed software architectures and domain applications foster greater ease with which to both disseminate and utilize intelligence data by both the analyst and the operational warfighter. Exploitation of standardized object-oriented commercial off-the-shelf (COTS) software products ensure that disparate system and heterogeneous data bases can be readily integrated and exploited with minimal effort, thereby increasing the efficiency associated with introducing new data sources and processes to the intelligence and operational community. These technologies provide greatly improved opportunity for developing advanced data base query techniques that can autonomously mine for relevant data sources across new and legacy heterogeneous data bases improving both response times and operator workload.

Advanced applications in map-based reasoning, auto registration, distributed collaboration, televideo conferencing, shared white board analysis and standardized visualization software services provide robust mechanisms to bring the intelligence analysts and operational warfighters in a more tightly coupled relationship to better serve the joint real-time crises understanding, planning, and execution processes.

The Joint Surveillance Target Attack Radar System (Joint STARS) provides an example of the application and integration of battle management technologies. I

envison three phases of evolution for the Joint STARS program. In the first phase, we were preoccupied with the radar sensor. The current phase is what I call the battle management, command, control and communications (BMC³) phase. In this phase we are weaponizing the Joint STARS E-8 aircraft and ground station modules (GSM) to provide a near real-time wide-area view of the battlefield. Fusion of data takes place both on board the aircraft and in each GSM as the operators view images created by software that combines the Joint STARS radar information with information from other national and airborne systems.

We are about to enter a third phase in which we develop new warfare concepts to exploit the Joint STARS BMC³ capability. Already, each user of Joint STARS information functions as a collection manager, forwarding requests for coverage to the on-board computer software that schedules the viewing area of the Joint STARS radar. The results of the radar collection are then broadcast to all users who know how they want to use the product. In this way, Joint STARS is one of the best examples of closely coupling the user to the collection management, assuring receipt of the information, and permitting the user to manage his or her own intelligence production.

DISSEMINATION

The potential of fused intelligence can only be exploited after it is transferred to planning and operations centers. The exponential increase in processing power carries with it the burden of increasing the demand on already severely strained dissemination resources, especially those that service our maturing strategy of split-based and deployed operations. Here too, significant developments in the commercial sector would appear to hold the key to overcoming these shortfalls.

You need not look much further than your neighbor's rooftop to grasp the significance that direct broadcast satellites portend for deployed operational forces. New satellite communications services are emerging in the commercial world that

will have significant impact on the DoD user community. One way direct or global broadcast services (both data and video), high data rate digital satellite two-way communications, and worldwide satellite-based personal communications services will be crucial not only to meet our normal communications load but also to allow full utilization of the burgeoning intelligence information stream.

Global broadcast service, or GBS, is already in the planning stages. Near term GBS systems will permit the reception of high data rate digital information in satellite dishes as small as 18 inches in diameter at data rates that have previously been enjoyed only by physically connected users. GBS technology could permit the broadcast of fused or even primary intelligence directly to lower echelon users in the area of conflict significantly decreasing the local commander's battle cycle time.

The technological investment currently being made by the commercial sector in this increasingly competitive and international field is already providing significant leverage for specific DoD applications. Although we foresee some variations being applied to these commercial schemes, such as incorporation of DoD reserved frequencies, robust data security methods, and advanced communication protocols, the capabilities being pioneered by commercial industry will provide the lion's share of required development in this arena.

So too, the emergence of the new satellite-based personal communications services such as Iridium, INMARSAT-P, Globalstar, and Odyssey, and higher capacity, higher frequency digital satellite networks such as Spaceway and Teledesic, will significantly affect the manner in which satellite communications will be used by distributed or deployed intelligence users. These advanced wireless networks permit orders of magnitude more data to be delivered to users in real time than is currently possible, and they make possible a new level of distributed computing and virtual data base development which is currently restricted to users grouped in local, high bandwidth, optical nets. Further out, breakthroughs in laser communications could increase transmission rates from multi-mega to multi-gigabits of data per second at

much less cost, size, and weight than today's transmission circuits. Overall, these enabling technologies suggest the freeing of tomorrow's users from the constraints of 19th century wire and 20th century fiber optic means of dissemination.

A high speed global communications network is absolutely essential to the dissemination of intelligence information. Asynchronous Transfer Mode (ATM) and Broadband Integrated Services Digital Network (B-ISDN) are key networking technologies based on the concept of cell switching. They use the entire aggregate bandwidth to provide on demand virtual communications service paths. They are in effect non-blocking systems making optimal use of bandwidth resources across a large and diverse user population, designed to support voice video, and high speed data, making them the first multimedia networking technologies. ATM and B-ISDN are considered enabling since they address the multimedia integration problem over both wide area and local premises, as well as the first real attempt by traditional telecommunications providers and local area network providers to collaborate on a common standard which meets the needs of both worlds.

Synchronous Optical Network (SONET) and Synchronous Digital Hierarchy (SDH) are telecommunications transmission standards which specify a structure and payload for transmission over fiber optics at up to gigabit rates. They constitute the physical transmission medium of choice for ATM. The U.S. version (SONET) utilizes a basic payload based on a STS-1 (51 Mb) building block, while the international version (SDH) utilizes a basic payload based on a STM-1 (155 Mb) building block. Both standards lead to a substantial increase in the bandwidth available (to five Gbps and potentially higher) for moving information from one place to another.

By the end of this decade, it is expected that the first interactive "bandwidth on demand" satellite communications services will be available using next generation Very Small Aperture Terminals (VSATs). These systems are made possible through the availability of Ka and Ku band capacity and constellations deployed to provide coverage where fiber or other terrestrial systems are either impractical or not cost

effective. Recent filings with the Federal Communications Commission (FCC) show the potential availability of ATM compatible systems beginning deployment in 1998. The services are expected to offer megabit bi-directional service based on ATM call set up and cell switching.

Wave Division Multiplexing (WDM), wave division switching, wave conversion, and soliton based switching take what heretofore have been viewed as primarily "transmission technologies" and convert them into "switching technologies." This eliminates the need for intermediate electro-optic conversion within a network resulting in a higher aggregate throughput and savings of network resources. In many high performance applications, we are currently "transmission bound" rather than "compute bound."

Secure distributed computing and networking technology will be a key enabler for the Intelligence community in the areas of analysis, fusion and dissemination. For the Top Secret and Compartmented sectors of the network, the government will continue to develop the necessary "high grade" security solutions. For the much broader Secret-level (and below) customer community, we will need to rely more on technologies developed in concert with commercial industry under the Department's Multilevel Information Systems Security Initiative (MISSI). Both the Department of Defense and the Intelligence Community must continue to work a broad spectrum of defensive information warfare issues as we move to the distributed information architectures of the 21st Century.

ORGANIZATIONAL STRUCTURES

The Intelligence Community operates in a layered, vertical hierarchy in which raw information is gathered by sensors at the bottom, is filtered and fused as it moves upward, and emerges as refined, validated intelligence that is disseminated to the customer. Currently, the process has many layers, information moving from bottom

to top, with a primary national product (e.g., National Intelligence Estimate) emerging at the top over weeks and months.

The on-going revolution in information technology suggests radical improvements in labor productivity within the Intelligence Community, but only to the extent that organizations are transformed to take advantage of technology's promises. We have seen much evidence already that information technology fosters networks while diminishing the value of organizational hierarchy. An unwillingness to make organizational change in this direction could risk forgoing at least some of the power of these enabling technologies; even worse, too prolonged a fixation on hierarchy could make us vulnerable to adversaries who more readily adapt to the information revolution.

Although it is difficult to predict the pace and scope of future organizational change, it seems safe to say that network organizations will be favored. In the 21st Century, I look forward to an Intelligence Community process that is much less stratified and segmented; utilizes automated correlation and analysis technologies to push other levels dramatically closer by removing much of the requirement for human interaction; and disseminates intelligence at every level as a primary objective, not an exception. I envision a single intelligence process that has outputs that deliver real-time targeting to weapons systems in seconds (not hours), bomb damage assessment images in minutes (not days), and theater-level mission planning data in hours (not weeks).

Suffice it here to say that the Department of Defense and the Intelligence Community must create an organization and contractual environment conducive to the demands of the new information age. We must redefine security and provide for protecting certain categories of information with new technical and procedural means. Most important, whether in developing specialized hardware and software or in customizing commercial products, the Department of Defense and the Intelligence

Community must adapt to the emerging economy of rapid obsolescence, short product cycles, and an ever changing population of small but unique providers.

SUMMARY

Our continued leadership in world affairs depends upon improving our intelligence collection, processing and dissemination capabilities. Today, the threat to U.S. national interests are truly global and less predictable. Our current intelligence systems and structures must be updated to cope with this new world order.

At the same time, the new enabling technologies will be developed largely by the commercial marketplace. For this reason, we in the Department of Defense and the Intelligence Community must take an innovative approach to the acquisition of intelligence systems. In the cases where commercial capabilities are applicable, a dual-use strategy should be pursued to improve the quality and reduce the cost of intelligence systems. Telecommunications is one such area. If we are to have assured and affordable access to the communications technologies needed for future intelligence systems, then we must reach out and exploit technological advances being made in the commercial world.

We are reforming our acquisition processes to reduce the cost of doing business with the Department and to remove the barriers preventing us from leveraging the capabilities of our commercial industry. The Department has a long way to go, but we're fully engaged and beginning to make visible progress.

In cases where technological breakthroughs are needed first or private investment risk is great, the Department and Intelligence Community must step in through direct financing to develop the leading edge technologies needed. Some sensor technologies will not be commercially viable within the timelines needed for near term intelligence system applications. Some processing technologies need to be "jump started" through government-industry partnerships.

Organizationally, we are headed in the right direction within the Department of Defense -- the acquisition workforce is coming down faster than the workload. Integrated product teams (IPTs) are accelerating acquisition decision cycle time through continuous insight, rather than after the fact oversight. We are stressing centralization of the "system of systems" architecture function and maintaining decentralized structures for acquisition execution.

The new challenges for U.S. intelligence systems and processes are driven by the new ways in which 21st Century adversaries will fight. Weapons of mass destruction, offensive information warfare, buried and covert facilities and mobile ("fleeting") targets exemplify these new challenges. All of these threats exist today, but the 21st Century will present them in a substantially new context, where the weapons are more diverse, more mobile, better concealed, more destructive, and more likely to be used. Improved technology offers one means of addressing these new challenges, but technology by itself will not equip the Intelligence Community to meet 21st Century intelligence requirements. Rather, Intelligence Community process and structure issues will also have to be addressed.

A strong and well-integrated program, tailored to the intelligence needs and commercial realities of today's world, is critical to the long-term interests of our nation. We have come a long way in restructuring our intelligence systems since the end of the Cold War. We still have more to do.



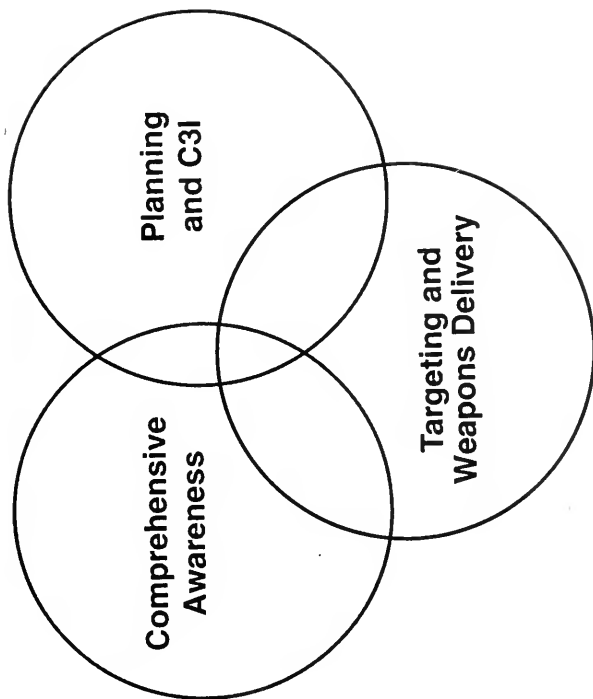
Enabling Intelligence Technologies for the 21st Century

Honorable Paul G. Kaminski

Under Secretary of Defense for Acquisition and Technology

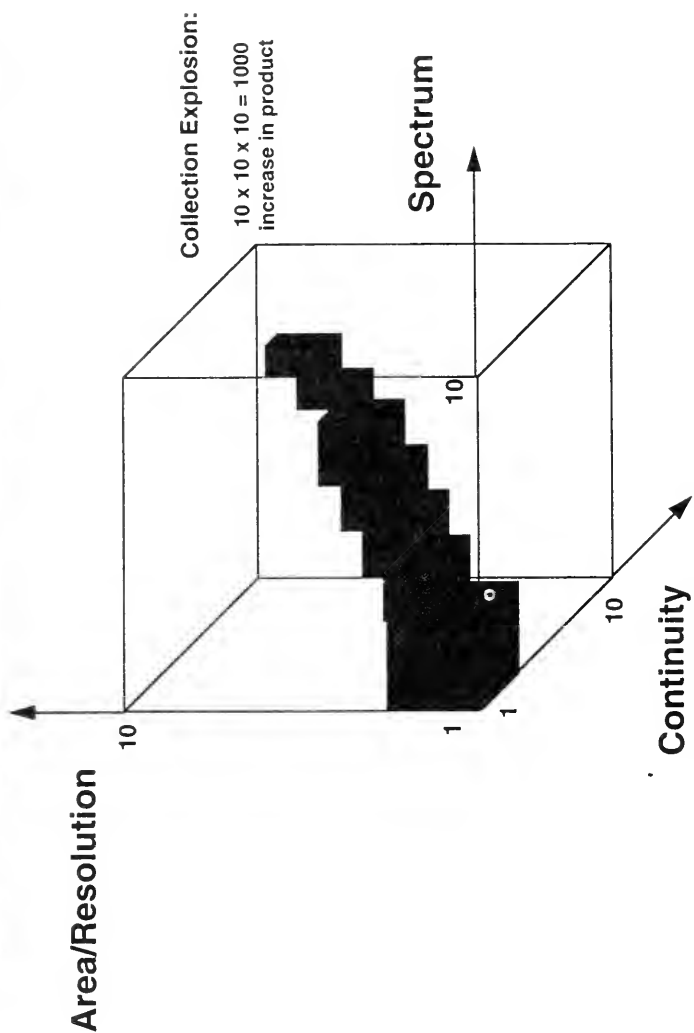


Battlefield Dominance

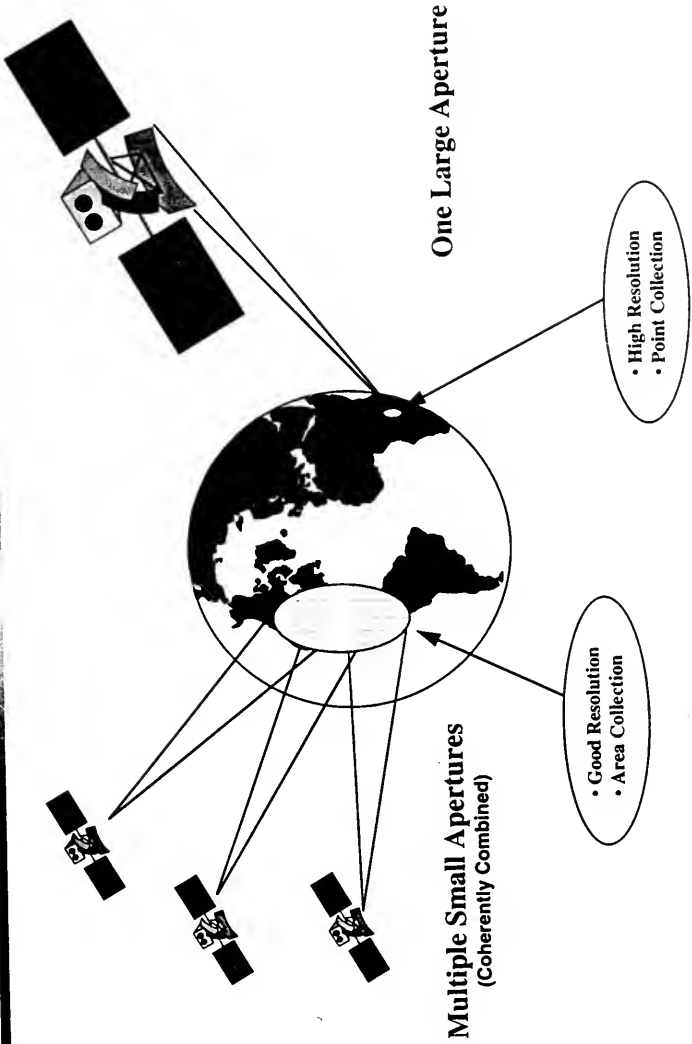




Sequential Collection



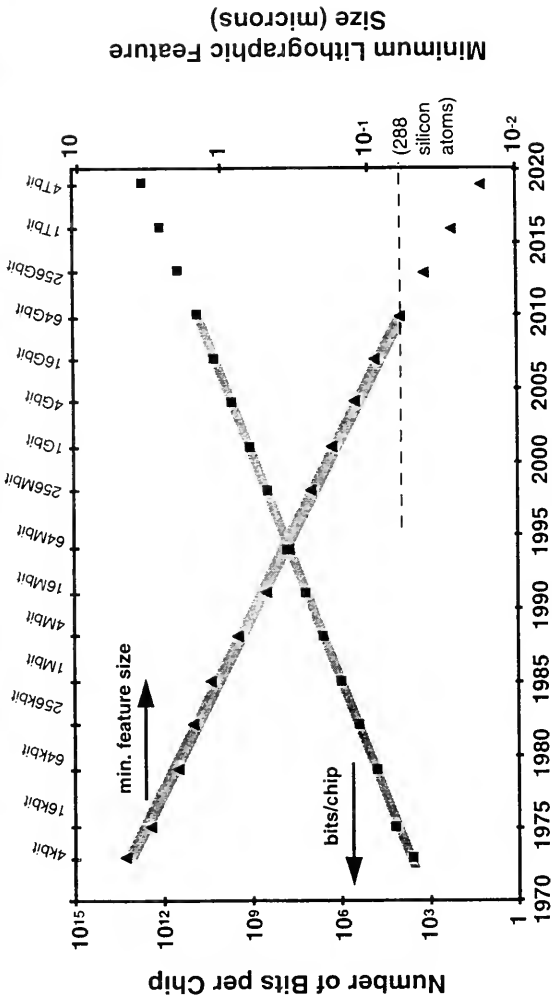
Common Grid





Moore's Law

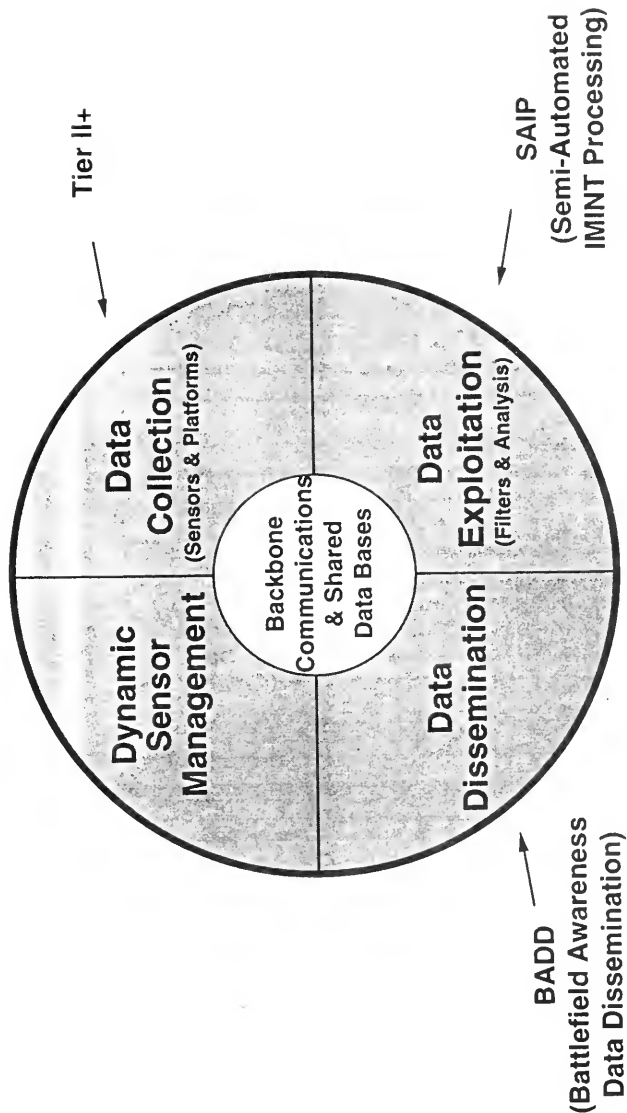
Memory Chip Generation



Year of First Production

Sources: The National Technology Roadmap for Semiconductors (SIA Publication, 1994)
Status 1995 (ICE Corporation, 1995)

Comprehensive Awareness



STATEMENT OF NORMAN AUGUSTINE, PRESIDENT OF LOCKEED-MARTIN CORP.

The CHAIRMAN. Mr. Augustine, if you would come up and deliver your statement.

Mr. McCracken, would you like to come up also and sit at the table?

Mr. AUGUSTINE. Good morning, Mr. Chairman and Members of the Committee. I would like to accept your offer to submit for the record a formal statement and summarize my comments.

I am particularly pleased to have the chance to share with you my thoughts on how technology might affect intelligence collection in the years ahead, because I think there are some very significant opportunities for our country in this regard.

As we have shifted from what was called the Cold War to the New World Order in the political front, with the former probably being a more accurate description of its era than the latter, we have seen great political change, but accompanying that has been a revolution in technology that has been perhaps a little less widely recognized, particularly the impact of that revolution on intelligence.

During the Cold War period one might with some oversimplification characterize the principal focus of the Intelligence Community as strategic intelligence, namely addressing the capability of our potential adversaries, with questions like "how many silos are there, how many submarines are there?" Or, focusing attention on the subjects of warning, "are the troops still in garrison, have the bombers been launched?"

One area during that period that it seemed to me we never did that well concerns the intent of potential adversaries. Unfortunately, that is an area to which technology does not lend itself particularly well for a solution, and I am afraid that is largely true today. Even in these areas, I think we still need to depend largely on HUMINT. But as we come to today and we find a new world situation, it seems to me that America faces a dilemma for which intelligence provides a major underpinning.

The dilemma we face is that it has been unacceptable for Americans to stand by and watch great human suffering, on the one hand. On the other hand, it has become equally unacceptable to become "911-America." That suggests to me that intelligence has an increasing role in telling us what it is we are getting into and what it is that is of other interest.

The changing situation would suggest new intelligence requirements or at least increased focus. The area of terrorism comes to mind, national and individual, which is by and large perhaps more mundane in terms of intelligence collection requirements, but still poses major issues such as, do they have nuclear weapons, chemical or biological weapons? As one moves up the scale of warfare and conflict, one comes to the subject of guerrilla warfare, which places greater demands on our intelligence communities.

But the area where intelligence, I think, will be most affected by technology in the years ahead has to do with combat intelligence. I have chosen that term. It has to do with intelligence for the warfighter. This is what I would like to talk about this morning. It is an area where fortunately the technical capability of our coun-

try is particularly well-suited, and an area where we have the opportunity to be preeminent in intelligence in the next decade.

Historically, our warfighters have faced two problems which until recently we have probably not done very well. One is finding targets, and the second is hitting targets once we have found them. As a result of this, my own studies have suggested that throughout most recent history (by recent I mean the last century), it has taken three to five tons of ordinance to destroy a single tactical target. With the advent of precision-guided weaponry, we can now hit targets that we can find, so the focus has to be on finding them.

This is where the Intelligence Community can have an impact. This makes some new demands on organization, demands closer ties between the Intelligence Community and the person in the cockpit or the foxhole or in the CIC. It places new requirements on intelligence itself.

For example, Secretary Kaminski touched on several of these points. We demand near real-time information. During the strategic period questions such as, "How many silos are there," had a relatively slow time constant of change; the question will become, "Where is the SCUD launcher right now?"

Secondly, we will need intelligence that is available at all hours—day and night. Forces no longer fight simply by day. We need an all-weather capability for our intelligence.

It was said in the Persian Gulf that we owned the night. We need also to own the weather. In a global context the focus is no longer simply the Soviet Union, but it is everywhere. Yesterday our interests were in Panama and Haiti, then they were in Iraq and Somalia. Next they will be in Bosnia and other places that I am not capable of predicting.

Intelligence of this type needs to be continuous. It can't be intermittent, with updates. We want to know all the time where the patrol boat is located, where the anti-ship missile is located.

Finally, we need great geographical precision, accurate enough for nonnuclear targeting, which demands precision measured in feet.

But in summary, we have available to us today a technological breakthrough of enormous proportions that is within our grasp, that is a breakthrough that could impact our capability of a magnitude almost that the introduction of nuclear weapons has had.

Let me touch on a few ingredients that affect achieving that capability. One has to do with the topic that has been addressed a good deal in the media, and that is the move to so-called small SATS. Somehow we seem to have a pendulum that swings in technology where there is a tendency to move too far in either direction.

While small SATS play an important role and have an important potential opportunity associated with them, nonetheless there are some things that are not done well with small SATS. Things having to do with large aperture come to mind, but also I would point out that the airlines are not talking about small planes, or shipping companies small ships. It has to do in part with economies of scale that still apply. So I think a balance is important as we address this question.

I would like to mention the breakthroughs that have occurred in processing, especially on-board processing having to do with computers and algorithms—which gives us capability for automated targeting and analysis. This can reduce manpower and assist in the timeliness of the information that we derive. It also suggests that we may be able to avoid saturating the user with unwanted data. The librarian of Yale University commented about the information age that we are “drowning in information and starving for knowledge.”

Data storage is seeing major changes in technology, giving us the opportunity for rapid recall, the storage of enormous amounts of information, and for doing such things as change detection. Not only have we seen breakthroughs in collection processing and storage but also in dissemination, and that relates to the subject of communications where truly prodigious throughput can now be obtained. That is particularly possible when one has available techniques of data compression which are just now beginning to evolve.

In many areas the state-of-the-art is no longer the province of the Intelligence or Defense Community; it is the province of the commercial world. It is important to structure the Intelligence Community so it can draw on that technology, but it is vulnerable because of dependence on it.

The subject of information warfare deserves a word or two because as we become more dependent on these advanced technologies, our alternative systems will tend to atrophy. This is an opportunity, but also a vulnerability. We have seen in the commercial world and the government the impact of people who seek to interfere with our information bases, and that could be particularly significant in the intelligence world.

I would like to say a word about two other subjects that may seem unrelated. Briefly, the subject of cost. The tendency for our intelligence systems in the past has been to design with capability being preeminent. Capability is still extremely important, but we need to place more emphasis on a balance of capability and cost in our future design work.

Finally, a word about the process by which we as a nation acquire the new technology that will be the basis for a revolution that I think is within our grasp. In my personal opinion, the acquisition process as it applies to our major intelligence systems has been among the very best of that used anywhere in our government. But it is still not without problems.

It is not possible to build 747's in a blacksmith shop, and too often it seems we try, in spite of the great efforts of Secretaries Perry and Kaminski and others, to do just that. We need to put more focus on the reduction of turbulence in our programs and our budgeting. We need to put more emphasis on the provision of reserves and on elimination of micromanagement.

I hope these observations are helpful and I will be happy to answer any questions you might have.

The CHAIRMAN. Thank you very much.

[The statement of Mr. Augustine follows:]

**Statement by
Norman R. Augustine
President
Lockheed Martin Corporation**

**Before a Hearing of the
House Permanent Select Committee on Intelligence**

**On the
"Intelligence Community of the 21st Century" Review**

**Washington, D.C.
October 18, 1995**

Mr. Chairman and Members of the Committee:

I am Norman Augustine, president of the Lockheed Martin Corporation. I greatly appreciate the opportunity to appear before you today to present my views on evolving technologies in the intelligence field and where those new technologies will lead us in the years ahead.

Let me note that coming before this Committee with the presumption of offering it advice is somewhat intimidating. Considering the issues before this Committee, I am reminded of the observation by Secretary of Defense Bill Perry, who noted his long-standing role as adviser to the Pentagon. He said, after almost two years in his current job, "[I]t is clear that advising the Defense Department is more fun than trying to run it."

So I will offer my suggestions, Mr. Chairman, with the realization that it is considerably easier to sit at this witness table than it is to be on your side of the rostrum.

The Strategic Era

To begin a discussion of the changes taking place in intelligence gathering, it is important to understand how we got to this point. As this Committee knows, the major emphasis of intelligence efforts during the Cold War was in "strategic intelligence." By that, I mean collecting broad baskets of data in such areas as counting missile silos, tracking deployments of troops and equipment, evaluating a

country's industrial strength and its ability to develop new technologies, and so on.

Looking back on that era, it seems obvious that our long-standing competition with the Soviet Union provided a grim standard against which we could judge the effectiveness of those intelligence efforts. The data we provided helped our country stay "competitive" with our adversary in terms of maintaining the strategic deterrence that was such a key part of our national security posture.

Also looking back, one can see that the ways the intelligence was collected tended to concentrate the importance of that data in a relatively few places and among a fairly small circle of people. Those occupying the "high ground" in military and government circles were the people who had broad, direct access as to the status of the nation's strategic posture.

This system of broad strategic intelligence closely held by relatively senior people worked well while the Cold War raged. The twin goals of any intelligence-gathering operation are understanding an adversary's **capabilities** and its **intent** with regard to using those capabilities. By keeping track of where the Soviet Union was actually using its capabilities -- whether in Afghanistan, Cuba, the North Atlantic or the Middle East -- one could draw a fairly accurate picture as to what the Kremlin was up to ... although we often fell short in the "intent" column. In the final analysis, strategic intelligence helped us win the Cold War by allowing us to use our resources efficiently.

A New Kind of Conflict

A little over a year after the fall of the Berlin Wall, we got a first-hand demonstration in how intelligence requirements have changed. In the first place, during Desert Storm the real threat was not that Iraq would destroy the United States militarily, but that it could seriously harm our economy and cause havoc with our Middle Eastern allies.

Second, when conflict finally materialized, what our troops in the field needed was real-time, continuous information about actual battlefield conditions. Were the tanks that were targeted actually destroyed? Did the adversary's commanders still exercise real control over their units? What was the battle-readiness of those units? Were there non-combatants at risk as a result of some anticipated action? How real were the threats of biological or chemical weapons? Where were the Scud mobile launchers located?

In a number of these areas during Desert Storm, we found that our intelligence capabilities did not match the warfighters' needs. The situation recalled the early days of electronic sensing during the Vietnam War. Pilots whose planes were outfitted with the devices often were distracted by the very equipment that was intended to protect them. The term "sensory overload" was coined as the pilots occasionally turned off their equipment in order to focus on their missions -- and stay alive.

In the Kuwaiti theater, we were generating reams of data, but there were delays in getting information into the operations area and often the information was not in a form readily usable by the fighting units. Our experience sometimes seemed to illustrate the maxim of the Information Age, described by a Yale librarian as, "We're drowning in information and starving for knowledge."

New Threats

Beyond Desert Storm-type conflicts, the United States faces a new array of formidable threats. Nuclear proliferation is a growing menace. Chemical and biological weapons are, of course, much less expensive to develop, thus continuing to pose a threat, especially in the hands of terrorist organizations.

Earlier this year, the Director of Central Intelligence testified that "[E]thnic, religious, or national conflicts can flare up in more than 30 countries over the next two years." Such a plethora of current and potential conflicts poses an excruciating dilemma as we as a nation seek to balance America's aversion to human suffering with the impracticality of becoming "911-America."

While the nature of warfare has changed, the battlefield itself is no longer circumscribed by the reach of a rifle or missile. Indeed, the entire worldwide information network is today at risk. There are more and more examples of information warfare, in which bank accounts are looted, computer systems are penetrated by malicious hackers,

and commercial interests are targeted for disruption. The proliferation of high-speed data communications links has compromised our ability to insure the security of these conduits. Newer cryptographic devices offer some promise of added protection, but as unauthorized incursions into a variety of computer systems demonstrate, a determined and capable adversary can often overcome security protections -- in either private- or public- sector databases.

Industrial espionage is said to be carried out by countries that we have traditionally viewed as allies. Some of those same countries allow the export of technologies that could very well be used against the civilized world in the future.

"Deregulated Intelligence"

At the same time that the national security threat to the United States has changed, many aspects of intelligence gathering have been "deregulated." With the end of the Cold War, governments that previously had jealously guarded technologies developed for intelligence gathering were willing to allow those technologies to be marketed by their commercial-venture partners.

We saw this phenomenon at work last year in the debate over resolution for satellite imagery. With foreign competitors preparing to offer similar services, U.S. policymakers realized that the technology was rapidly outstripping our nation's ability to control it. The

Administration assisted the evolution of this inevitable process with its issuance of Presidential Decision Directive 23, which allowed U.S. firms to begin building commercial remote sensing satellites.

The U.S. and European industries have responded vigorously to this changed circumstance, with companies building one-meter resolution satellites that are privately funded and that will "earn their way" from commercial contracts. The government benefits from these efforts, in that it can buy certain kinds of data from these companies without having to build and maintain such systems. However, those of us who are in this market recognize that our business would risk collapse if the government also enters the market, selling data collected by systems designed for national security purposes at the marginal cost of that data.

This experience with one-meter resolution satellites parallels what had previously happened in the commercial launch market. After the Challenger disaster, the president took the government out of the commercial launch market, which allowed private interests to design, raise money for, develop, and launch vehicles specifically for the commercial space market. The important thing is that companies are developing many of these new vehicles on their own -- a significant new trend in a market that the government used to have all to itself. The government derives significant savings from the investments we in industry have been making in commercial launch systems. But by the same token, it should be emphasized that

industry cannot, in such a narrow market, do it all. Government still has a significant role to play.

So far, I've described some of the vast changes being encountered in the intelligence field: new threats, new combat requirements, new market conditions, a whole new way of developing technology. Now I'd like to describe some of our future intelligence requirements -- and the enabling technologies that I believe will allow us to meet those needs.

Future Needs and Enabling Technologies

Global, continuous, all-weather coverage. One of the common phrases that emerged from Desert Storm was, "We own the night." Unlike previous conflicts which largely shut down after sunset, American Forces could fight on into the night, aided by night vision capabilities. Soon, we may be able to say with equal assurance, "We own the weather."

Coverage of key intelligence targets will become possible in any weather, based on technologies that move beyond the current visual and infrared technologies to ones that allow greater utilization of the electromagnetic frequency spectrum. Another capability of advancing technology is the detection of substances at manufacturing facilities with signatures that identify them as potential sources of chemical or biological weaponry.

Lighter and cheaper spacecraft platforms, light-weight large optics, more flexible aperture systems, and improvements in radar antennas, processing electronics and spacecraft power systems will allow imaging from higher altitudes, including geosynchronous orbits. Many of these technologies apply as well to high-endurance, low-observable airborne reconnaissance systems.

Because of these capabilities, the United States can move to "long dwell" reconnaissance systems. As our weapons systems become more capable, there is a growing need for continual surveillance of the battlefield -- a need that could also be served by the use of smaller satellites -- "smallsats." Perhaps it does not need to be said, but "small" does not necessarily equate to "commercial" nor does it necessarily imply "less expensive" when the cost of the entire system is considered in the context of the requirements. The airlines have not adopted "smallplanes" because of their supposed efficiency. Nor do shipping companies prefer "smallships."

But "smallsats" can offer solutions to some specific intelligence demands. They represent another system in the quiver available to the intelligence community. We need to examine a "smallsat" approach in terms of the overall system's ability to satisfy the requirements of the mission that is established for it. At the same time, we should continue to work on making existing systems more capable and cost-effective; the upgrading of existing designs is often a highly cost-effective way of obtaining expanded capabilities.

We have to remember that with every new technology, there is a "learning curve" that must be surmounted. "Smallsats" certainly represent an intriguing new technology, there will no doubt be surprises as the satellite architecture is put into place. We should continue to work on existing systems so that we will have proven assets to fall back on should "smallsats" or other new technologies need a lengthy, evolutionary process in order to establish their true capabilities.

Enabling information technologies. In the current reevaluation of "enabling technologies," we must not overlook the importance of ground architecture. Just as the intelligence community is composed of collection, analysis, production and dissemination elements, a collection system is more than just platforms. Approximately two-thirds of the system cost is devoted to non-satellite elements of the architecture. Just as a sea-launched ICBM would be useless without the fleet ballistic missile submarine to transport it, an advanced collection satellite in orbit would be useless without the receiving and processing technologies that are part of the ground-based infrastructure. Commercial progress in the enabling technologies will produce rapid change in human computer interaction, distributed systems technology and advanced communications networks. Where we need government initiative is in information security, systems, product integration, and advanced research in next generation computing, archives, and innovative information management techniques.

New measurement capabilities . The intelligence community will be able to provide much better understanding of our adversaries because of multispectral sensors and automatic fusion of all-source data. Developments in imagery at new ranges on the electromagnetic spectrum will support such needs as automated target identification, terrain analysis, and detection of weapons of mass destruction.

Advances in radar technologies will also make it possible to develop a capability to counter the threat of cruise missiles and stealth aircraft. The key breakthroughs include better understanding of the vulnerabilities of low-observable targets, plus the ability to provide more radar power and better coverage at lower cost.

Routing information to the right user . The development of new on-board parallel processors in space-qualified computers will permit real-time processing in support of functions that have previously been performed by analysis over periods of days. Automatic sorting software will cull the data and avoid the information overload. Advances in onboard processing, including data compression and laser crosslinks between satellites, will assure the communications bandwidth necessary to provide data to all users nearly instantaneously. Storage and data management systems will be available for handling extremely large archives. Automatic target recognition and analyst aids, and high-quality, high-resolution displays will enhance productivity.

Data security . Continuing development of onboard processing and higher bandwidth cross links, including laser technology, will also allow

more data communications capacity over secure links such as Milstar. Advanced encryption systems will improve the security of data over fiber and low-earth-orbit communications systems.

Reduced system cost . The miniaturization of components will reduce the weight and cost of certain satellite systems, including more efficient solar arrays, lighter weight batteries, advanced computers, composite structures, low power electronics, multi-chip packaging, and high-density memories.

Improved design and manufacturing cycle time . The effectiveness of these advanced satellite technologies will be further enhanced by the rapid progress in simulation based design. Workstation capacity and memory capabilities have increased to the point that entire systems can be modeled with real time simulations, allowing early identification of the most promising technologies. These same simulation systems can dramatically reduce design and manufacturing cycle time, and allow early training by operators, and can be used in the field by war fighters for "what if" exercises in assisting strategy and tactics development.

Sophisticated communications architecture. As the mass of information available continues to grow, threatening to overwhelm the analytical capabilities of the intelligence agencies, a more sophisticated communications apparatus is sure to develop. One example of just such a development has been the interconnected private-sector financial markets reporting system -- a possible template upon which a new communications infrastructure may be modeled.

This is perhaps the most critical technological advance of all, because it will tie together the diverse elements of the global battlefield in a truly coherent force for the first time in history. Just as smart weapons revolutionized the effectiveness of warfare, so too will a new all-source intelligence "fusion" capability ensure added value to America's already superior fighting forces -- and provide knowledge on demand to the warfighter. Such an innovation will improve the allocation of resources, the effectiveness of weapons systems and, most importantly, the safety and survivability of troops in the field.

A Critical Intelligence Model

The technologies I have highlighted should continue to assure America the technological edge that has been so critical to us in times of war and peace. They are within our grasp -- yet they face a danger greater than any technological challenge. The danger is the cost exacted by the acquisition process. There have been some encouraging first steps toward reforming what everyone agrees is an inefficient and outdated system of acquiring advanced systems. My colleague Dan Tellep recently noted that there have been some 700 studies of the acquisition process.

I hope we will continue to work to improve the current process; with the collective 70 percent reduction in defense procurement funds over the last several years and significant reductions in other related areas, we can no longer afford the "luxury" of such an inefficient system.

If the United States is to have the intelligence system with the capabilities it will certainly need in the 21st century, it will require not just exciting new technologies. It will need: stable funding, a streamlined acquisition process, enlightened leadership and the support of this Committee and the full Congress. Because of that past support, we have been successful in moving promising new technologies out of the lab and into the field, where they have helped save lives, conserve taxpayer dollars, and win battles.

My sincere hope is that the American intelligence community remains strong and vigilant and that, through all our efforts, that community will continue to be the eyes and ears of a free society. While the end of the cold war signals great opportunity for economic expansion throughout the world, we must never assume that certain things are happening in the world. We must know it.

It is very hard, of course, to predict what the future might hold. General Schwarzkopf, toward the end of his autobiography, included the following passage: "If someone had asked me on the day I graduated from West Point where I would fight for my country during my years of service, I'm not sure what I would have said. But I'm damn sure I would not have said Vietnam, Grenada and Iraq."

Thank you again for the opportunity to appear before you today.

* * * *

STATEMENT OF EDWARD McCracken, CHAIRMAN AND CEO OF SILICON GRAPHICS, INC.

The CHAIRMAN. Mr. McCracken.

Mr. McCracken. I would also like to submit my written testimony for the record and make some comments.

I appreciate the opportunity to visit with the Committee today, coming from Silicon Valley. I have three major points today:

One is, the Information Age is just now beginning. It will have more impact on all of us than anything since the industrial age many years ago.

Two, this Information Age change is being driven by the commercial sector, by private research and development driving that technology.

Then I have some ideas for substantive changes that I think will give the Intelligence Community more access to the relevant commercial technologies.

A couple of words about Silicon Graphics, since we are a relatively new company, founded 12 years ago. Our technology was funded by DARPA funds at Stanford University before the company was founded.

We do all our research privately with private funds and increasing portions of that are moving into the entertainment community, which is grabbing a lot of that technology. And you all know about our systems use in Jurassic Park, Forrest Gump, Lion King and Pocahontas, and many new movies that you see today.

Two elements that distinguish us from many other computer companies is that we have strengths in three-dimensional graphics and in advanced computing, image processing, advanced high performance computing and large media data bases. We have concluded that our computers were installed at more of the world's leading supercomputer sites than those of any other company. And it is not surprising that we have become a major supplier to the Intelligence Community.

Our general purpose computers are used for such tasks as satellite positioning, combat simulation and image processing. We supply our computers to the Intelligence Community through systems integrators who combine our machines with custom software and ancillary hardware of one type or another, and these more complete systems are sold to the Community directly.

The pace of change is accelerating more rapidly than ever before. A few examples: We all talk about semiconductors and the fact that geometries are getting smaller and speeds even faster. It is not unrealistic to assume that within five years micro-processors will be able to process billions of instructions per second, compared to hundreds of millions today.

I think less discussed is that graphics performance is also increasing dramatically. Today we have perhaps the fastest commercially available graphics system and one measure of that is 1 million polygons per second, and within the next few months we will be introducing our next-generation system that will have a performance that is perhaps five times that, and that doesn't stop the progress either. Within just a few years we will have systems that when you watch these screens really do approximate reality in this virtual space.

A third technology I would like to mention that is having tremendous impact on our company and how we operate, and we are also selling a large number of servers for this application, is systems around the World-Wide Web. In our company we have 7,000 employees and something like 10,000 work stations. And on these work stations we access information that is updated in real-time, which means no matter where you are throughout our company worldwide, you can get the latest data all the time, getting information where decisions are made at the tactical location rather than being processed in staff organizations. I think this could also have impact eventually on our defense strategy and on the Intelligence Community.

Another good example of systems that are being developed by us for the commercial sector are those we are developing for a new studio called "Dream Works" in Southern California. It is called the Digital Studio of the 21st Century Asset Manager, which is a large media database.

In that environment all the characters are stored, all the scene backgrounds are stored, all the art, all the pictures, all the different cuts of potential movies, so that these assets can be used not just for the movie itself but for video games, for multimedia presentations, for television programs.

This is the Digital Studio of the 21st Century, and it is similar to what is needed in the intelligence environment. Also, it is not all that different from systems we sell to Ford Motor Company, where in their global design studios throughout the world they are able to design the shape of a car in Italy but have people in Detroit and Germany and England reviewing that shape and participating in the design in real time. Again, something that makes a lot of sense I think for the Intelligence Community and affects the environment in which we have to operate.

A few other comments about key industry trends. First of all, the time is getting shorter for each of our systems. It takes a maximum of about two years to develop fundamental new technology. The technology lasts in the marketplace about two years maximum; some people would say 18 months.

We have minor changes in our systems every six months to a year. These systems are open, they are built around standards. In most cases, military and intelligence customers don't play a dominant role in setting the technology agenda, although we do appreciate the involvement, and we do have major parts of our systems that the Intelligence Community has impacted. But again, I think most of the most technically demanding and sophisticated customers turn out to be from the entertainment industry.

Silicon Graphics and other lead companies are in the general purpose computer business. We derive our resources from high-volume applications. We will generally not devote R&D resources to customized, low-volume applications.

Our business is global. At Silicon Graphics we design our products in conjunction with what we call our lighthouse customers. Because things are changing so rapidly we need to understand this new technology, this new performance, how it can be used so we work with lighthouse customers who want to gain some advantage by using this commercial technology. We include them in the de-

sign process and we and the customer benefit from this close working relationship.

The Intelligence Community is beginning to foster this sort of relationship with leading technology companies like ours, but under the current system direct contacts with the Intelligence Community are not as frequent or as open as we would like, partly because of the necessary security concerns, and partly because agencies tend to purchase through systems integrators, which can create a communications barrier.

A well-designed lighthouse program in which key representatives of the Intelligence Community can meet regularly with their counterparts in the commercial sector could give us better insight into your key requirements and in turn lead to commercial products that are more tailored to those requirements.

That doesn't mean that a customer dictates a custom product. These same systems will be sold to Ford, to the movie industry, to the pharmaceutical sector and others. Commercial systems generally accomplish all the goals set out at the beginning of their program. It is required or we go out of business. Typically, they have better price performance than proprietary systems, but I think the most important thing is that they allow smooth transition to the next generation and the next 10 customers can buy today's system and move smoothly into generations for five or six years further out that are perhaps 100 times more powerful.

Procurement needs to be revisited. A typical government procurement cycle today takes about a year from the release or the request for proposal to the award, and then the contracts call for a five-year procurement of products and services. One thing that you are absolutely guaranteed of by that time, is that these systems will be obsolete by perhaps nine generations.

We will be able to buy faster and more powerful systems perhaps at the local discount computer shop. This cycle may make sense in some areas, but certainly not in the computer field today, and that is why customers understand that flexibility is essential.

That doesn't mean that planning is irrelevant. We work with these customers on technology road maps where we try to predict the future together and develop a future. We just don't lock that into a specific plan with specific procurements for generally longer than about a one-year period of time. We try to set it up with information so that customers can react to technology.

There are examples in the Intelligence Community of blanket order agreements that allow some of that flexibility. We have some experience there and I think a more general movement in that direction for commercial off-the-shelf products makes sense.

Thank you for this opportunity. We at Silicon Graphics look forward to playing a key role in helping the Intelligence Community manage successfully through these dramatic technological changes and opportunities that are created that I have talked about today.

Thank you.

[The statement of Mr. McCracken follows:]

Edward R. McCracken

**Chairman and Chief Executive Officer
Silicon Graphics, Inc.**

**Testimony Before the
Permanent Select Committee on Intelligence
United States House of Representatives**

October 18, 1995



SiliconGraphics
Computer Systems

Testimony of Edward R. McCracken
Chairman and Chief Executive Officer, Silicon Graphics, Inc.

I appreciate the opportunity to appear before the Committee today. After some brief background about Silicon Graphics, I would like to address the following topics:

- the impact that the accelerating pace of technological change is likely to have over the next few years on the way that the intelligence community gathers, analyzes and distributes information;
- the increasing role of the commercial sector in driving the advanced computing agenda, and some thoughts on how the intelligence community can both leverage and influence the huge research and development effort at Silicon Graphics and other leading technology companies; and
- how the intelligence community's procurement process for information technology should evolve in response to this changed world

Silicon Graphics Background

Silicon Graphics, Inc. is the world's leading supplier of visual computing solutions. Our computer systems range from desktop workstations that cost less than \$10,000 to supercomputers that cost millions of dollars. Our revenues are now over \$2 billion annually, and our R&D budget is over \$350 million. We employ over 6,000 people, most of whom are based at our headquarters in Mountain View, California.

Two elements that distinguish Silicon Graphics from other computer companies and that are particularly relevant for today's subject are our strengths in three-dimensional graphics and in advanced computing. Our company has from its founding in 1982 been based on the idea that visualization is the best way to display information. We give our customers the ability to create three dimensional models of their ideas and to manipulate them in real time. This technology has very broad application, including areas as diverse as automobile manufacturing, computer-generated animation and advanced military simulation.

In recent years we have expanded our business from its workstation origins into the advanced computing sector. Our symmetric multiprocessing technology allows us to bundle as many as 36 standard processors in a single supercomputer, which gives us clear price/performance advantages over traditional supercomputers. A recent independent

survey concluded that Silicon Graphics computers were installed at more of the world's leading supercomputing sites than those of any other company.

Given these technological emphases, it is not surprising that we have become a significant supplier to the intelligence community. Our general purpose computers are used for such tasks as satellite positioning, combat simulation and image processing. We supply our computers to the intelligence community through systems integrators who combine our machines with custom software and ancillary hardware.

Technological Change and its Impact on the Intelligence Community

It sometimes seems that for companies like Silicon Graphics change is the only constant. We are now entering the third decade of living with the axiom that the performance of electronic systems doubles every 18 months, which means that in absolute terms the pace of change is accelerating more rapidly than ever before. Let me give you a few examples:

- in semiconductors we expect the relentless process of improvement to continue indefinitely, as process geometries get ever smaller and clock speeds ever faster. It is not unreasonable to project that industry standard CMOS microprocessors like our MIPS RISC chips will in five years be able to process billions of instructions per second, compared to hundreds of millions today and tens of millions just a few years ago.
- graphics performance will also soar. Today our Reality Engine graphics system, widely acknowledged as the best in the world, can process as much as one million "polygons" per second, which is the standard measure of graphics performance. In a few months we will be introducing systems that raise that standard by 500%, and within a few years we expect to be at levels that will approximate reality as the human eye observes it.
- the impact of the World Wide Web is fundamentally reshaping the way people and organizations work and communicate. At Silicon Graphics, for example, the Web has become the principal channel through which our people share information throughout our global operations. The effect is not just to give people better, more timely information, but to change the very shape of the organization, allowing people in remote locations and different business units to share resources without regard to traditional hierarchies.

These rapid technological changes intersect perfectly with the demands that the intelligence community faces as we enter the next century. As recent history has shown, the focus of warfare has shifted from local command of a particular place to distributed command involving multiple locations. This sort of combat makes time, not place, the

key variable. The ability to gather, analyze and disseminate data among multiple combat, logistics and analysis locations should be a source of decisive advantage to our forces. This advantage is particularly important in so-called "third wave" warfare, in which a nation's information resources are both a weapon and a target.

In addition, all of the agencies are confronting an immense overload of data, with more information from a wider variety of sources and at higher resolution. The traditional analog technologies that are still in use today--print film, light tables, microscopes--cannot possibly cope with this mountain of information. The technologies that I will discuss today, by contrast, will allow the intelligence community to process and organize this data, to analyze it with unprecedented speed, precision and flexibility, and to put the analysis in real time in the hands of those who need to act upon it. They will also permit significant productivity gains, which are of course essential given the need to do more work with shrinking budgets and a smaller analyst workforce.

Let me give you a further piece of good news: development of the key technologies that will enable this revolution will be funded largely by the private sector, because most of these technologies have important commercial implications. And when these technologies are delivered, they will arrive not in a proprietary "black box" but rather in mainstream commercial computing systems. I can illustrate this point with a few examples of what the intelligence community should be able to do in just a few years:

- analysis of satellite imagery today is most commonly done using 2-D transparencies examined on light tables using microscopes and stereoscopes. To the extent that digital technology is used, it is most often in the form of expensive specialized proprietary equipment. Even with current technology this analysis could be done more efficiently with commercial off-the-shelf equipment using electronic softcopy tools. In the near future we will be able to generate a 3-D model from the digital data and add data from other sources such as map archives and chemical emissions. This will allow analysts to fly through the scene in real time, to simulate multiple scenarios, and to instantly convey the analysis to decisionmakers, whether at the White House or on the battlefield. At Silicon Graphics we are developing the same kind of technology for applications ranging from mechanical design to simulated surgery to virtual reality theme park attractions.
- as the volume of data grows it becomes more important than ever to filter the signal from the noise, to be able to discern the relevant bits or patterns of data even when you don't know what you're looking for. For example, the intelligence community might be interested to know that a particular commodity is being shipped in unusual quantities to a particular country, if it had the means to isolate and identify this pattern. But this problem is not unique to the intelligence community. Retailers would love to make sense of consumer buying patterns. Financial analysts are forever searching for anomalies in securities pricing. What we have found is that visualizing this data in three dimensions, a technique known as "data mining", reveals patterns

that conventional analysis will never uncover. We believe that this technology, now at a relatively early stage of development, has huge commercial potential and direct application to the intelligence community.

- the data problem is not just one of volume, but also of multiple data types located in different places. For example, NSA data is primarily in the form of signals, CIO focuses on imagery, and CIA has data of every category, including human intelligence. The inability to access these multiple data types means that the analyst is necessarily working on the basis of fragmentary information. The right answer is to have this data stored on high performance media servers linked by a high bandwidth network, so that analysts anywhere on the network can, under appropriate security restrictions, combine different data types and perform real time collaborative analysis with other analysts in different locations. The technology required to pull this off is remarkably similar to what we are developing for the emerging interactive television business. Today in Orlando, Florida our partner Time Warner Cable is conducting a trial of such a system, designed in conjunction with Silicon Graphics, in which interactive services such as video on demand, home shopping and information services are being delivered from Silicon Graphics media servers over a fiber optic network to hundreds of households. We think that there is an enormous opportunity for the intelligence community to leverage from this work.

Key Computer Industry Trends

I hope that these examples give you a sense of why the intelligence community ought to make it a priority to accelerate the trend toward commercial computing systems as the backbone of its information technology philosophy. But successful management of this transition will require that the intelligence community understand and adapt to the realities of today's computer industry. Here are five key trends that need to be grasped:

1. Commercial symmetric multiprocessing systems with standard CMOS-based microprocessors provide unbeatable price/performance in high performance computing. This is true today (witness Silicon Graphics' rapid emergence as number one in high performance computing); over the next decade the gap will widen and traditional high performance technologies like vector processing will be obsolete. There is no technological reason, and there is certainly no fiscal reason, for the intelligence community and other government customers to serve as the buyer of last resort for aging, expensive traditional supercomputing architectures.
2. Open, standards-based computing environments like those in the UNIX marketplace give customers the flexibility to adopt new hardware to take advantage of rapid hardware performance increases and to protect their investment in data and software while avoiding long-term commitments to a single supplier. These open environments give our customers the confidence to adopt new ways of doing business, secure in the knowledge that they are not investing in a technological dead end.

3. Military and intelligence customers no longer play a dominant role in setting the technological agendas of world-class computer companies. At Silicon Graphics, for example, some of our most technically demanding and sophisticated customers are from the entertainment industry.

4. Silicon Graphics and other leading companies are in the general purpose computer business; we will generally not devote R&D resources to customized, low volume applications.

5. Our businesses are global. Half of our sales are outside of the U.S., and our product strategies cannot be based on purely U.S. market-based opportunities.

Building a Partnership with the Intelligence Community

With these realities in mind, let me turn to my final theme: how should the intelligence community work with the commercial computing industry in order to influence its technological agenda and to ensure that our intelligence agencies are buying the best available systems at the best prices? The short answer is: learn from what our most demanding and sophisticated customers do.

At Silicon Graphics we design our products in conjunction with what we call our "lighthouse" customers. These are the customers who want to gain competitive advantage from being early adopters of emerging technologies. It was from these customers, for example, that we came to appreciate the power of collaborative engineering, in which designers in multiple locations can work on the same project through shared data and applications combined with video and audio. As a result we have designed our current generation computer systems with such features as built-in digital video cameras and real time conferencing software. Both we and the customers benefit from this close working relationship.

The intelligence community ought to make it a priority to foster this sort of relationship with leading technology companies. Under the current system our direct contacts with the intelligence community are not as frequent and open as we would like, partly because of security concerns and partly because the agencies tend to purchase through systems integrators, which can create a communications barrier. A well-designed lighthouse program, in which key representatives of the intelligence community can meet regularly with their counterparts in the commercial sector, could give us a better insight into the intelligence community's key requirements and in turn lead to commercial products that are more tailored to those requirements.

This is not the same as the customer dictating the details of a custom product. Our lighthouse customers realize that no commercial system will be perfectly tailored to their requirements. They are willing to make modest tradeoffs, however, because they

understand that commercial systems generally (i) accomplish all material goals of the program; (ii) are the first to deliver leading-edge technology; (iii) have dramatically better price/performance than proprietary systems; and (iv) allow for smooth transition to the next generation of technology when it becomes available.

Procurement also should be revisited. A typical government procurement cycle today takes approximately one year from release of the Request for Proposal to the award. The contracts themselves often cover five years of procurement of products and services. How many of our commercial customers buy this way? Zero. They know that this cycle, which makes sense if you are building dams or buying tanks, is simply inapplicable to computer technology, which is characterized by rapid technological advances and falling prices. Our best commercial customers, companies like Ford, Boeing and Walt Disney, understand that flexibility is essential.

This is not to say that planning is irrelevant. Many of these customers have a technological roadmap that in general terms takes them out several years, and that has a few core principles, like "keep the system open", "make the assets digital", "build the communications infrastructure". But the *implementation* of this roadmap is deliberately kept flexible. Purchase commitments are short-term, rarely more than a year. If there is a shift in technology these customers want to be able to react to it and benefit from it.

The intelligence community is moving in this direction. One concept that makes a great deal of sense is for the agencies to have Blanket Order Agreements with a number of leading technology suppliers. This approach gives the end-users the ability to select the best technology from the best vendor at any given time. Silicon Graphics, for example, has such a contract with NSA, and we believe that it has been a successful program for that agency. But such programs are the exception rather than the rule. All of the agencies should accelerate the current trends toward streamlined procurement procedures for COTS products.

Thank you for this opportunity. We at Silicon Graphics look forward to playing a key role in helping the intelligence community manage successfully through the huge technological challenges and opportunities that I have discussed with you today.

The CHAIRMAN. Thank you very much.

I would like to start initially in the area of procurement and acquisition—some of the challenges and some of the suggestions that you might have. This is a great panel to do that.

Dr. Kaminski, from where you are, and then from the gentlemen on either side of you, we recently were told, and I think that it was described very well, that it used to be that a government contract was something that industry sought. Now, it is not the first thing on the list, necessarily, that industry wants to do. And, consequently, you build a few items that are going to cost you billions, you build billions of them and they are going to cost you hundreds. So, the idea in industry is to move toward the commercial sector, and we are seeing the results of that certainly today.

Also, in terms of the projections, this Committee has been told that a lot of the research and development—that Mr. McCracken referred to will, in the future, be for the entertainment business—has tremendous applications for both defense as well as for intelligence.

I talked about it in terms of needing to look at having the government act sort of like a venture capitalist. Rather than going to a company and contracting for a massive program to go over many, many years, we should discuss what the needs are and look at ways by which, maybe, there can be some financial structure, financing incentive or financial backing of that company, as it might develop something that the government needs.

Also, looking at it from an application of what commercial possibilities there are, let's say if the product "hits," then the company pays the government back. If, in fact, it can be a commercial application, the government maybe receives the program it needs, and at the same time, the company would also benefit commercially as any venture capitalist would. Is this somewhat taking a risk? I don't know how well that would work, and it is quite a deviation in what we do today, as a general rule, in government procurement. But if it continues to take this long for the procurement process, by the time it is procured, it is obsolete. This is such a rapidly changing world.

Delve a bit into procurements and acquisition and how we can specifically make that work better. Feel free to go however you would like.

Dr. KAMINSKI. Let me start and make a few comments. The need to move away from the system of the past I think is absolutely clear, Mr. Chairman. The Department of Defense cannot operate in an environment where our acquisition cycle time is 12 or 15 years when the technology is turning over every three to four, or in some cases, year and a half. So we need to make wholesale changes in that entire process.

There are several major trusts that we have under way, but probably the one most apropos to talk about here has to do with what I would describe as both dual-use technology and dual-use production, where we look in partnership to see technology developed that has a defense or intelligence application but also has a commercial application.

From my perspective, I am selfish in that I am not about to approve an investment that I don't believe has a return for the De-

partment. If there is a commercial capability that develops that is additive, I am very happy to see that, but my interest is in buying, for example, off a commercial line and if the Department can get a better product for less cost by buying it off a commercial line, then I am interested in doing that. This requires a big cultural change, though.

It is much easier when you have the resources to fund all your own development. It is harder to pay attention to what somebody else is doing in the commercial sector and to try to leverage it in a lighthouse sense for your own application. So we are about changing the culture.

I think we have no alternative but to do that, to operate in that way, both in dual-use development and in taking the opportunity to produce off of commercial lines. We will, in many cases, not be producing a full DOD or intelligence system on a commercial production line, but we have great opportunity to produce the major subsystems, processors, the graphics or key components on commercial lines and then to apply them into a system of systems architecture for our ultimate use. There is much more we can do in that direction.

What we are trying to do is enable our program managers and to streamline our system to move much more in that direction. The pendulum is way too far on the side of conservatism today.

Mr. MCCracken. Although I indicated that our company in some ways is a result of the venture capital model at DARPA funding university research, and I really believe that there has been a tremendous impact on university research in this country, that as a result of much of the work that you look at, companies like ours, we don't need the venture capital in most cases. We have the money. We have the—there are private sources of financing to develop these technologies.

They are exciting, they are rapidly growing markets. These kinds of technologies have high rates of return. The capital markets are working. I think the thing we need more than anything else is relationship information, sharing of what some of the needs are, because we are looking—our view is that when technology changes by a factor of 100, which now happens within a decade, the paradigms shift and the way you would use and apply the technology to an application changes. But since we understand the technology, we often don't understand the paradigm shift. So if we could work with advanced customers who have insight into how to apply that technology in a new way, that is valuable to us and we would like to integrate that back into our product line.

We view the Intelligence Community as having many of those people that do understand the paradigm shift. The only thing we ask is that we can then take those ideas and make them available to the public marketplace in standard products. If that is possible, then generally I am not sure we need venture capital. Certainly streamlining the procurement process, on the other hand, helps dramatically, because it shouldn't cost the government more to buy than one of our other large customers and it shouldn't cost us more to sell to the government.

Mr. AUGUSTINE. If I might comment from the perspective of a firm that works both with the government and with commercial

customers. As the government acquisition process has encountered problems in specific programs over the years, individual solutions have been added on a somewhat piecemeal basis. One of the consequences has been that the time constant of the development process has become very long and very incompatible with the time constant of the development of new technology.

The doubling time, for example, or the time between generations, of dynamic random access memory is about two-and-a-half years. One compares that with, for example, a system that uses a great deal of electronic technology, namely air defense. The Fleet Air Defense System and Army Battlefield Air Defense Systems that are in the field today had each an average of 18 years of development time. The two time constants have become totally incompatible.

The suggestion was made that firms no longer seek government work. In our case, we do seek government work with the DOD because we think it is important. We think we have a contribution to make. But at the same time I would have to say in all candor, our company is, in addition to a significant supplier of the DOD and the Intelligence Community, we are also the second largest provider of crushed rock in America for construction, and I can assure you that our crushed rock business is far more profitable, and takes far less effort.

You made the interesting point, Mr. Chairman, about the government becoming a venture capitalist. I think there is a great deal of attractiveness to that notion. It has been tried to some extent, and let me cite two cases:

One is the case of DARPA or ARPA. That is an organization that I think has had an enormous impact on technology in this country both commercially and militarily, and I would encourage continued support because they are in the position to take risks and work on the leading edge of the state-of-the-art. At the same time, on the notion of having the government become an investor in companies that produce new technology: our company had the experience of acting on the government's behalf in that regard when we had a contract to operate a government facility. We had agreed to reinvest a part of the profit we made in small spin-off companies which we would own just a small equity share.

We invested in some dozen companies, and I don't remember the exact figures, but about eight of them didn't amount to much, two or three were so-so, and one of them did very well. We made a substantial gain on our investment in that one company.

We were excoriated by GAO, the media and, candidly, the Congress for having made such an excessive profit on that one. The other 11 weren't mentioned. So we decided we had had enough of that and declined to do it anymore. I think the idea is fundamentally sound, but we have to adjust the attitude in terms of the kinds of risks and benefits that go with becoming an equity investor.

The CHAIRMAN. I would make two quick comments. Number one, having been a businessman, I am very envious of someone who doesn't need venture capital. It may also say a great deal about why you are still in business and I am not.

Second, one of our counterparts on the Senate committee, Senator Kerrey, mentioned something recently. He and I were discuss-

ing this whole issue. We had done an op-ed piece about procurement in government and our interest in pursuing that. He said that, as a businessman, if he decided to make an investment, he would make it, and if it went "kaput," he would lick his wounds, learn from it and go on. If government did that, you would spend three years in front of committees wondering why you did what you did.

You are right; you were challenged on one company that did well, the 11 companies that didn't work were not mentioned. Congress has to drive that and they also have to recognize that there needs to be some change, and we have to change the way we do business as well.

Mr. Dicks.

Mr. DICKS. First of all, I want to welcome all the witnesses.

We appreciate your taking time to be here today.

Dr. Kaminski, I read in your statement, and you go into considerable detail, but I think it is a very important point about the efforts of the Department of Defense to achieve dominant battlefield awareness and combat superiority through the deployment of fully integrated intelligence systems and technologically superior weapons systems.

You go into a description that dominant battlefield awareness, means knowing everything going on in the battlefield, everything within an area that can measure up to 200 kilometers by 200 kilometers. You mentioned properly that in the Gulf War we saw for the first time the use of precision-guided munitions.

What do you see in the area of intelligence that is going to help us take more advantage of those kinds of capabilities in the future?

Admiral Owens has been talking about this and it seems to me that that is one of the major issues, and that is being able to fuse this intelligence right into the cockpit of an aircraft so that you can then use those weapons in a timely fashion.

Any ideas on that?

Dr. KAMINSKI. Yes, Mr. Dicks. I think probably the biggest leverage item in the whole process is the issue of turning the data that comes from the various sensors, or from whatever sources we have, into useful information that we can act on. That is probably where the biggest gain is to be had in our current system, to be able to sift through that and to fuse it in an intelligent way.

When I describe the idea of an area 200 kilometers by 200 kilometers and knowing everything that is going on there, it doesn't mean that every tactical user has to have all that information, 200 kilometers by 200 kilometers worth. If we give that to the—provide that, for example, to a tank, a particular tank probably only really needs to have some information in the sphere that he can be attacked or he can influence. Upper echelons, more information is needed.

The issue is how to process through all that, decide who needs what and to be able to distribute the information to the person who needs it, not have everybody in parallel trying to look at all the information. We are trying to deal with a sensory overload problem in which somebody receives 10,000 messages and has an hour to review that stack before going into combat. That is not a very workable situation. So a good piece of our issue is a way to sift

through and derive the information you need that you can then act upon.

Mr. DICKS. Mr. Augustine, you are working on some of the most advanced weapons systems we have, the F-22 for example. Do you see a day when we will be able to take advantage of all our national intelligence and be able to get it to the pilot in the cockpit in a timely way. We had a problem during the Gulf War being able to find the launchers for SCUD missiles, for example.

Mr. AUGUSTINE. I do. I think you have put your finger on the area where we will see the greatest change in intelligence in the years ahead. I would envision a global intelligence network that is real-time, all-weather, high-geographical precision, continuous, that does what Dr. Kaminski said, namely that monitors all interesting items to a military force. To be useful, as your question suggested and as my earlier comments included, that information can't just go to an intelligence center somewhere in Washington and sit there. It has to go to the cockpit or the foxhole or ship's CIC. We now are beginning to develop the communications that will let us do that, the processing that will let us do that.

We have the platforms that can let us do that. We are building the sensors, and we already have the weaponry in which you can embed the global information system such that you can lay ordinance on targets within inches or feet of where you want it, whether you are using a F-22 or artillery piece or what have you.

I think the pieces are beginning to be there in technology. We are no longer making 20 percent improvements in technology. It is orders of magnitude of improvements.

I think it is a very exciting opportunity, but it is an architecture problem. We have to bring all the pieces together, and that is one of the toughest things to do. I say that as a systems integrator. But that is the challenge that lies ahead. Our problem is not technology, but systems engineering.

Mr. DICKS. You also pointed out, I think properly, that only one-third of the whole system in the intelligence area, we are talking about our national system, are the satellites. It is the ground processing and the dissemination. Sometimes we do a great job, it seems to me, in getting the imagery or collecting the signals but we don't do as well in terms of processing or analysis. That seems to me to be one of the challenges that we face.

Mr. AUGUSTINE. I believe that is true.

Mr. DICKS. You also mentioned in your statement, the question of small SATS. This committee has been looking at this as a very serious matter. You make some observations. Basically you end with: We should continue to work on existing systems so that we will have proven assets to fall back on should small SATS or other new technologies need a lengthy evolutionary process in order to establish their true capabilities.

In your judgment—you are one of the most respected figures in this country on these matters—do you think we are ready to go forward with small SATS or should we do what we have done in the past, that is examine the concept very fully before we make a decision to go ahead and deploy these?

Mr. AUGUSTINE. I think small SATS have an important role to play, but to completely cast our capability on small SATS or to

place the bet that small SATS are going to be able to be the entire answer, I think would be a mistake.

I think we should approach this in a deliberate fashion, and I am confident small SATS will play a role. But I think it would be a grave error to think that small SATS can replace things that are of a more traditional design.

The reason I feel that way is, partly, some things require large aperture, and that is difficult to do in small packages. But an even more important reason in my mind is that there are economies of scale that one gets by using larger systems. I think those trades have to be made for each individual application. So I would hate to either defend the notion that everything should be small SATS or that everything should be large SATS.

Mr. DICKS. But is it your position that we need more time here?

Mr. AUGUSTINE. I think we have to go through each individual case and try to decide what we want and what is the best approach. During that period of time, I would hope that we will continue to make product improvements to what we have, because that is usually a very cost-effective way to maintain a capability and infuse new technology.

Mr. DICKS. Dr. Kaminski, any comments on this?

Dr. KAMINSKI. I agree generally with Mr. Augustine's thrust. I would say that there is going to be room and quite likely growing room for small SATS in an architecture of the future, that we need to get some experimental and experience base behind us some of the architectures enabled by small SATS. That can be done by building and demonstrating trial systems before wholesale commitment to architectures.

I would describe it as a situation where I don't believe the pendulum is going to swing all the way over from large SATS to small SATS. Today, the pendulum probably is somewhat in the direction of, too far in the direction of large space systems, but I think we need to go about this in a systematic way and we have a means to do that by doing development and demonstration programs of small SATS before going to a wholesale commitment.

Mr. DICKS. Mr. McCracken—my time is expired.

The CHAIRMAN. Mr. Hansen.

Mr. HANSEN. Thank you, Mr. Chairman.

I apologize for not getting here earlier. I was listening to Secretary Christopher and Secretary Perry defend putting a lot of troops into Bosnia, kind of a headliner right now.

I would be happy to relinquish my time to some other Member as I get up to speed with what is going on here.

The CHAIRMAN. Ms. Pelosi.

Ms. PELOSI. Thank you, Mr. Chairman.

I want to join you in welcoming our distinguished panel. I take particular pride in welcoming Ed McCracken of Silicon Graphics from Northern California, and join with my colleague Congresswoman Anna Eshoo in expressing the pride we take in the contribution he has made to our community as well as the obvious contribution that he has spoken of today. On this visit to Washington, Mr. McCracken will receive the President's National Technology Medal of Honor. As I was walking over to this meeting, I remembered in HHS appropriations on which I serve, at the beginning of

the year, we had the benefit of a panel of Nobel Laureates who gave us the benefit of their thinking. In recognition of Mr. McCracken's award, I was thinking how fortunate we were to have the benefit of his thinking.

When I read the bios of our witnesses and heard their testimony, we are fortunate indeed to have the benefit of expanding our intellectual bases on this subject, the objects of judgment that they bring and their expertise scientifically and professionally to help us get a foundation so that we are better able to make our decisions on priorities in spending and authorizations as we go forward.

So I take particular pride in Mr. McCracken, on the occasion of his receiving the presidential award, and think this is certainly the equivalent of the Nobel Laureate panel.

In light of that, I would like to ask a question that springs from something that Mr. McCracken said. He said that—these are not exactly your words and far be it from me after characterizing this panel, for me to characterize your remarks, so please correct me if this is a mischaracterization—when our Chairman asked about the Federal government being an investment banker or how we can help in doing things jointly, whatever, you said that basically—comfortable is not the word—you were comfortable with your knowledge of the information and the technology and where it is going, but the paradigm shift was your challenge and that maybe we can help predict the future together.

I wondered if you could comment on that any further or if Dr. Kaminski and Mr. Augustine would comment on the paradigm shifts that they see.

Mr. MCCracken. Yes. My comment—thank you.

My comment was that the fundamental trends in technology are not easy, but they are somewhat predictable. About every time that they change a factor of 100, which is every seven or eight years, that the way that you would design a complete system, the way you would architect an approach to a problem, perhaps the overall scheme could perhaps change. And that is what can be changed. That is what we need the information on. That is what we need, a close relationship, with partners like the Intelligence Community.

An example of that would be that in the old days pictures were two dimensional and pictures still are, but you can now map pictures easily on to three-dimensional structures. If you know the geometry of the earth, it is easy to map a three-dimensional image on that and fly through that space. In three-dimensional form, that is a paradigm shift from the two-dimensional world that we have been using in the Intelligence Community for years.

Dr. KAMINSKI. In this paradigm shift I think something that is lost has to do with the skill on the path ahead that is enabled by the marriage of technology and new applications for the technology. That is a place where I think we can benefit by more interaction. Seeing the technology developers exposed to a vision, a new application that might be enabled that the developer had never conceived of is a very important thing that occurs and sometimes where we as a nation make very substantial process.

The developer of the application may often be inhibited by not being aware of a technology that is in development that could be forecast to be available sooner than anticipated, that would make

that application real. It is that kind of interaction that I think is key to the process.

Ms. PELOSI. Thank you.

Mr. Augustine.

Mr. AUGUSTINE. Thank you.

I would cite two what might be called paradigm shifts. One is in the area of requirements. I mentioned the requirement of going from strategic-type information to tactical information, where instead of providing to the Secretary of Defense a report every Wednesday about how many silos were under construction, to provide to the pilot in the cockpit where the tank is right now.

Fortunately, there is a paradigm shift in technology that lets us provide that kind of information if we properly structure ourselves. The technology change is, to some extent, in sensing, although less so there, but very much so in processing, storage and distribution. Brought together, it changes the character of combat. It takes us from where combat was principally an autonomous activity of individuals that went out and found targets and attempted to engage them, to where one has a system such that often the people involved in the combat will never see the targets they are engaging.

There was a Frenchman a century ago that said, "To fight from a distance is instinctive in man"—and I would suspect women as well—but we are coming to that point where we will fight from a distance, and very effectively. So while strategic intelligence is still very important, of strategic importance, I think that the real shift is in the tactical application of intelligence.

Ms. PELOSI. I appreciate that.

You are reminding me of an article that was just in the paper about the difference in soldiers when they have to kill close up or at a distance. They said that during the Civil War people were just wounding people; they didn't kill them when they were face to face, and when we had these terrible numbers of deaths, it was remarkable, because there were many, many wounded people in order to produce that many deaths because of the psychology that was existing then. Just a departure from what you were talking about.

You each talked about procurement, flexibility entrepreneurial approaches. Mr. McCracken mentioned that the performance of electronic systems doubles every 18 months.

Would you be more specific about suggestions you might have to change, revisit the word Mr. McCracken used, the procurement system and, Dr. Kaminski, anything you might say further about the plans that you may have at DOD?

Mr. MCCRACKEN. Yes, there needs to be a revisiting of this entire approach because of the change in time and the pace of change and our need to have the best technology available that is enabling this new way of accomplishing the application. We do have some examples of things that are working very well.

For example, our own company has a blanket order agreement with NSA at the present time, and users seem to have the ability to select the best technology from the best vendor at any given time. It has been a successful program for us and the agency, but too often that approach is the exception.

Mr. AUGUSTINE. As I mentioned, it has been my personal experience that the Intelligence Community does as good a job of acquisi-

tion as any part of our Federal Government but it is still far from perfect, obviously. Many of the things that are being worked on to improve the acquisition process I think will be very positive, things such as trying to buy more commercially, trying to control imposition of specifications et cetera. They are constructive and important, but candidly, I think they are only a small part of the problem.

I think the dominant part of the problem with the acquisition process today, if you had to name one thing that has to do with the turbulence of change, the turmoil of the process, the constant changing of budgets, the constant changing of requirements, the constant changing of people, the constant changing of schedules.

For all the money that we waste because of over-specifying, that is totally lost from starting programs and stretching them and stopping them and accelerating them and changing them, I have made lists of these and we have to focus on adding some stability.

I think the way we do that is through long-term budgeting, providing reserves to program managers, making it very, very, very hard to start a new program and once started making it very, very hard to stop it. I know that runs contrary to what a lot of people say, but in the commercial world, once we commit to something, we try to get it done and done quickly, and unfortunately we don't yet do that in the intelligence area.

Ms. PELOSI. Dr. Kaminski, I will have to have the benefit of your thinking on this response when I come back.

Representative Castle has informed me that I have to leave now.

Mr. CASTLE [presiding]. I have to leave with her. We have to go vote now.

We will stand in recess until Mr. Combest comes back.

[Recess.]

The CHAIRMAN [presiding]. I apologize for the interruption. Hopefully, we won't have to do it again. We can try to keep it going with the Members here.

I will get back to an item of interest to me. One of the things that we are, obviously, as has been mentioned, going to be looking at in terms of a tremendous challenge with technology and its ability to provide information, is the analytical part of technology and what the structure should be for an Intelligence Community of the 21st Century. This is especially challenging in the area of analysis and analytic tools.

There are a number of different ideas, none of which has been determined yet to be the appropriate one. But to the level that you can, what possibilities do we have in using technologies that—I think mainly our emphasis has been on collection—to provide analysis in a much quicker fashion so that we can begin to know exactly what we have information on?

Dr. KAMINSKI. I will start, if I may.

In the 10 pillars that I mentioned, Mr. Chairman, I think very key in the core of those pillars is this idea of being able to populate very large, diverse, object-oriented databases; indexing the information that goes into those databases, on the basis of where collected, in three-dimension, time collected; being able to have access to various open databases, unclassified databases; and the ability to be supplied with tools to sift through that in an orderly way. And to

use the analog of the Web in terms of being able to interact with other analysts who are on similar missions and have the product of their work—I see that core being key to this kind of a capability.

It will be never-ending, but just wide open standards in architecture are important as more things are added over a period of time, and the ability to bring that off in an architectural sense is really the key challenge.

Mr. AUGUSTINE. I would add that I think that technology will have a much greater role in the analysis area, and I think it will have to. That is true not only because the volume of information that is becoming available will saturate any human-based system, but of equal importance, if we are to help the warfighter the timeliness demand is such that there isn't time for a great deal of human intervention.

I could imagine an intelligence system in the future that has different levels of human involvement depending on whether you are dealing with strategic issues, tactical warning issues or battlefield issues. As one moves down the hierarchy of applications, I think we will go more and more to purely automated systems.

Fortunately, we have the wherewithal to be able to do that. We have made enormous strides in processing and I think the principal limitation now is that of algorithms, being able to develop the kind of algorithms to deal with the issues that we face.

Mr. MCCracken. This is an interesting area. The technology is there to do interesting things to be able to find the needle in the haystack quickly and to find that without much human interference. There is an analogy in the commercial world with the World-Wide Web, where there is an explosion in amount of information becoming available to those of us that are connected in today's world. But finding that information out of the millions and millions of pieces of information that is generated every day is becoming extremely difficult.

A number of companies are now specializing in that area of work. There is some very interesting algorithmic work in the area of shape-based searches of one kind or another. Fortunately, the technology is there and I would agree that the issues are solvable.

The CHAIRMAN. As we were discussing about the analysis part of it, it would suggest that we need to arm our analysts with the proper tools for training and place them in more of a flexible organizational structure that allows them to rise to some of these challenges. Current discussions about a new National Imagery and Mapping Agency come to mind—would such an agency be a flexible organization?

Would any of you care to comment on your thoughts in terms of that, as a part of the structure for a future Intelligence Community?

Dr. KAMINSKI. I will comment briefly.

I think the vision of the National Imagery Agency is exactly in this direction of being able to structure an organization which has the resources required to provide more timely exploitation to serve as a visionary for the paths ahead in integrating some of these databases, for looking not only at image analysts, but the production of data that we used to think of as hard-copy maps, which already the emphasis will be going on three-dimensional databases

to be able to describe and provide a framework to be updated in the field. So the collection of those interests together in one agency I view as a path ahead.

Mr. MCCracken. Certainly the idea of critical mass is important here. There are various groups throughout the community at the present time that have different levels of understanding and use of the technology, and if it can be coordinated in a central way without—with the advantages, without the disadvantages of centralization, which is quite often stopping innovation, I think if it can be used to increase innovation and a faster move in this direction, I think it would be very good.

The CHAIRMAN. One of the real challenges—I think probably the greatest challenge—that we have and where there is a great deal unknown, is that as we move to using technology and information as more of a part of a battlefield plan, or in financial systems or whatever was referred to earlier, the term informational warfare comes to mind. We are potentially very vulnerable in that area—whether it is air traffic control, or bank accounts or war systems—in our ability or inability to either be able to communicate or know that the information we have in front of us is accurate.

I presume that in the commercial sector, there is so much technology being driven today by the needs for commercial application rather than just governmental application, that the companies involved in that are also spending a great deal of time to try to make these systems secure. This is a much better commercial selling feature. But I think that it is going to be an area that is going to have a great deal of time put into it. I am on a commission with Senator Moynihan on redefining security and systems and how to deal with security in the future. And we will be dealing with your companies as we move forward; how to streamline that process but protect the secrets.

I would be happy to delve into that subject a little further, to touch on either some of the challenges you see there or some of the things the government needs to do working hand-in-hand with the private sector. It is certainly not just government that is vulnerable in the informational warfare sector. There is a lot of attention that is being given to it by would-be adversaries.

What other comments would you wish to make on that subject?

Dr. KAMINSKI. I might make one or two.

My sense is that there is a growing awareness of the importance of the issue for both commercial applications, and for our national security applications that in both cases we are probably lagging somewhat. What needs to be done, we need to be moving out. I am seeing adjustments now being made in commercial systems that are offered with more advanced security features.

To the extent we rely more and more on these capabilities in the sense that I described as a dominant battlefield cycle time in which the intelligence component is a key element, that element will want to be disrupted by any adversaries. And it will not only be in the military systems that are deployed, but in the various commercial systems that are one step away from supporting it; for example, systems like power grids and communication systems and the like, all of which could end up being the subject of various attacks. So this will be an issue of growing importance both in our

commercial infrastructure and in our national security infrastructure.

Mr. AUGUSTINE. Certainly, as information warfare becomes more and more important to us, it becomes equally important to any adversary to disrupt that capability. Security in the context that you mention it has at least two aspects. One is to be certain that the intended recipient receives the information. And the other is that those to whom you wish to deny the information in fact are denied that information. Our experience in various commercial applications would suggest that we continue to find surprises even though we think we have solved the problem. One reason for that is that these systems are so complex, so interactive, have so many interfaces and are changing, they are evolving continuously, that it is very, very hard to maintain the degree of control that is really demanded.

I think we also should be careful that we don't assume that the extent of the problem is merely one of providing communication security.

There is also the problem of how do you provide the security while the software is being written? And one can think of a number of other aspects that probably are not appropriate to discuss here. But it is a huge systems problem and we would probably make a grave error as we design the information system for the Intelligence Community of the future if we don't devote a considerable amount of effort to figure out how, if we were an enemy, we would disrupt that system.

Mr. MCCracken. I applaud your efforts in this area. I think it is an extremely important area.

As Chairman of the President's Advisory Committee on the National Information Infrastructure, we have had a chance to look at this in some depth and feel like it is one of the biggest issues in putting together a commercial national information infrastructure and a global information infrastructure. I believe that information and protection of information in the Information Age is equivalent to protection of property in the Industrial Age. And the need to have strong security in our commercial systems is very important. And the need to be able to have that security throughout the world as our companies become global or are global is very important and adds a real complexity to the issue.

The CHAIRMAN. I know this is not totally without controversy, particularly as the private sector further advances in the area of protection of information. I guess the most recent example, of course, has been the question about law enforcement. How, then, does law enforcement still have the ability, the proper procedures, that would have to be obtained prior to, say, tapping a phone, if that instrument is built in such a way that it is untappable? We have closed a tremendous loop, whether it is terrorism or bank robbers, and that goes further. I think there needs to be a governmental recognition of the integrity of the private sector's product, and, on the other hand, the need to work with government to not make it much more difficult for government to do its work.

There is sort of a big brother concern, and that is realistic and understandable. But I am hopeful that we are able to come together with industry about what our needs are. Because I think in

the end, if you are developing the systems, you probably have the best advantage to also develop it in a way in which it is safe, and government needs in that area are critical.

But again, I think it is one of the biggest challenges we have, not only protecting that information but protecting the ability for two systems to communicate. Because if we lose that communication, the more we emphasize the technology war, then the more we are at the mercy of some other people. And I wish I knew the answer to that. I don't, but it has captured a tremendous amount of attention. That is what I think we are going to have to rely upon, to a huge extent, for the private sector and industry to help us to solve.

Ms. Pelosi.

Ms. PELOSI. Thank you, Mr. Chairman. I was going to defer to our Ranking Member.

Mr. Chairman, just before the vote, I was in the process of getting responses from our distinguished witnesses and did not have time to hear from Dr. Kaminski. So with your permission, I would like to go to where we left off.

I was asking about some specific suggestions from our witnesses on how the procurement process could be changed in the Federal government to improve the relationship, as was suggested by our witnesses.

Dr. Kaminski, you were about to respond, but if you would also respond in light of Mr. Augustine's comment that there is turbulence in the process and it is in a state of constant change and one way to improve the situation would be to minimize the flux—my word, not his.

Dr. KAMINSKI. I am in complete agreement with Mr. Augustine about the need to stabilize the system. In fact, one of the ways you can do to stabilize the system is to also reduce the cycle time of the system. That is the longer it takes us to develop and field something, the more room there is for mischief in the system, changing decisionmakers, changing leadership, so these two do go hand-in-hand.

There is need for greater stability in an absolute sense and there is a need for reduced cycle time. The changes that are required will be many faceted. We have had changes in acquisition, the Federal Acquisition Streamling Act of 1994, which gave us a number of improvements, the ability to do credit card purchases for small purchases and simplified procedures for procurements under \$100,000, which make up the preponderance of the awards that we provide, not the dollar value, but the total number of awards that are made. But we also have a major cultural change ahead of us.

We have a system that I think was well-described by Mark Twain, who described that once there was a cat who sat on a hot stove lid and having done that that cat will never sit on a hot stove lid again. But the problem is neither will that cat sit on a cold stove lid.

For every problem that has ever happened in the past in our acquisition system, we have another hurdle, another step, each of which individually was well-intentioned. But when you take the collective combination of those and the culture that has developed around them, a wholesale change was made. And that change cannot be made by the direction of the Secretary of Defense or by my-

self. It requires changing the culture from the bottom up, to have buy-in into a new approach. We are working at that. But the process will not last if there isn't buy-in at the working level, at the contracting officer, at the program management level, and unless we create incentives for that kind of a change in behavior.

I do see evidence that the system is beginning to change. I was noting just this last week an award that was made this week for something called JDAM. This is a kit that is added to our dumb bombs today, our 1,000 and 2,000 pound bombs, that gives them precision in all weather conditions and we expect to build quite a number of these. Our plans today are to build about 40,000 of them.

So the cost of this system is very important to us. We are not done with production of the program yet but I was looking at the history. When we started to begin our program of acquisition reform and we set out a proposal for the system, the first proposal in August of 1993, required 87 military specifications and standards to be enforced.

As we have entered the program in engineering and manufacturing development, today the number of mil specs and standards required to build the system is zero, all done on a commercial base. The number of pages in our statement of work for that program in August 1993 was 137; the number of pages today is 2. Our estimate for the unit production cost of the system in August of 1993 was \$68,000.

Our estimate today as a result of applying this whole process is less than \$20,000 per unit. So it is something moving in the right direction. We haven't procured this, it is not on the shelf yet, but there is some sense of this large system that we operate beginning to move in the right direction.

Mr. DICKS. Will the gentlewoman yield?

I cannot resist mentioning that the cost of 16 of those on a B-2 bomber was \$320,000, or roughly, one fourth the cost of one standoff cruise missile which average about \$1.2 billion per copy or \$16 to \$20 million per plane load. I mean there is a revolutionary difference in the cost. If you think about that in the context of something other than a short war, where you have a longer war, it could make a huge difference. I commend especially Darlene Druyan, who has been on top of this program and I think has done a great job on the JDAMS program, but it shows you the difference in the cost of this weaponry.

Dr. KAMINSKI. This is benefiting from every measure we have put in place, from an effort to streamline oversight in OSD to incentives for the contractor. It is a very high-leverage program.

Ms. PELOSI. That is encouraging. We are fortunate to have such a distinguished panel before us and others who work with them on these issues. For them to have to spend any time worrying about these kinds of issues like government procurement and how to make it more efficient when we would obviously like to have the benefit of their thinking more on where they make even a larger difference, as I say, it is good to see that there is some success here so that the cat will sit on the stove again.

I have a question in another direction Mr. Chairman. If these questions were asked while I was voting—my time is up I see. I will save them for the next round, then.

The CHAIRMAN. Mr. Dicks.

Mr. DICKS. You mentioned two things, Mr. Augustine, in your statement. One was about the fact that in Desert Storm/Desert Shield we were very good at night. Then you talked with equal assurance that in the future we might say we own the weather. You talked about the utilization of the electromagnetic frequency spectrum. Would you tell us more about that?

Mr. AUGUSTINE. I would be happy to do that. If I could go back in history a little bit, the character of combat has undergone a "paradigm" shift. If one goes back many years, combat took place principally in the summer, forces bivouacked in the winter. The advent of machine mobility changed that, so forces fought year-round.

Only recently, though, we reached the point where forces fight both day and night, and for the side that happens to have an advantage at night, that is a preferred time to fight. Such was the case for our side in Desert Storm. In essence, if one has the ability to fight at night and the other does not, one is fighting a blind opponent.

The same applies to weather. If one side can fight in bad weather and the other cannot, it is an enormous advantage. One might say statistically weather isn't going to be bad a great deal of time, but that overlooks the fact that the character of the weather and the likelihood of combat are not uncorrelated. The Battle of the Bulge didn't occur by accident during bad weather. So it is very important that we have the capability to fight in all weather.

We are developing that capability and that capability depends on the ability to see through weather and that is the R&F part of the electromagnetic spectrum. So if one uses the intelligence system that has already been described in terms of its processing and dissemination and storage, and puts a front end on that that can see in bad weather (which I think we are soon to be capable of or are to some degree capable today), it opens a whole new avenue of capability—just like the ability to see at night or to fight in the winter.

Mr. DICKS. You also mention in the next sentence another capability of advancing technologies is detection of substances at manufacturing facilities with signatures that identify them as potential sources of chemical or biological weaponry. Could you tell us a little more about that?

Mr. AUGUSTINE. In this particular forum, I will limit my comments. But there are techniques that DOD has worked on for many years, and parts of the Intelligence Community have worked on as well that permit one to do remote chemical analysis, if you will, to define chemical composition of substances. By doing that, one can get an indication of whether or not a particular facility might be manufacturing chemicals or biological compounds. And that is of course a very important thing to know, as your question suggests, particularly when dealing with terrorists. I think I will stop there.

Mr. DICKS. All right.

Let me ask you one question that has bothered me over the last few years, and that has been the way the defense budget has been

drawn down. We have seen from 1985 to 1995, the procurement budget come down from about \$135 billion to somewhere in the low 40's, but at the same time we have protected R&D. It is down somewhat, but it is not nearly as dramatic as what we have seen in the procurement area.

We talk about the fact that the commercial sector passed us in 1965 in terms of their investment in R&D, and yet it has always bothered me that you kind of go through this budget and you look at all these R&D programs, and in my judgment, a lot of those things are never going to wind up being procured. I just wonder whether we have gotten this thing out of balance. When we think about the next real problem, we talk about readiness and other things, but the next real problem is going to be in the area of procurement. We have cut it back so dramatically that we will not be able to equip our forces in the future. I would like your reaction to that.

Mr. AUGUSTINE. I would like very much to comment on that, and I suspect Secretary Kaminski might care to do so as well. If one takes a macroscopic view of the Defense budget, it has been cut by like 35 percent. The procurement budget has been cut by 70 percent in real purchasing power, the R&D budget by much less than the 35 percent, the infrastructure has been reduced by about 18 percent. So we have, in my opinion, a very imbalanced fashion of reducing the Defense budget. To the great credit of the people who today manage the DOD, thus far I think they have done a good job of not making the mistake that many of us traditionally made in the past, and I was a party to this I must confess at one point, and that is of cutting too heavily into maintenance.

Mr. DICKS. Into O&M?

Mr. AUGUSTINE. Yes. But I think one has to view our defense capabilities as having a force structure of a given size. And there are attributes of that force structure that have to do with its readiness, O&M, training, and so on. It has to do with modernization which has to do with procurement and R&D.

And today, at least in my opinion, we are headed towards a force that is badly out of balance; that today we either have too much force or too little money. Whatever the case, we should have a balanced force, a force that balances the size of the force, the modernization of the force and the readiness of the force. To have a force that is out of balance, that is too big for the amount of money we have to support it is, in my opinion, a mistake.

Mr. DICKS. Are you suggesting that we need to make further cuts in force structure?

Mr. AUGUSTINE. My personal opinion is, and I am probably not as well qualified as Secretary Kaminski to address this, but I think we have cut the force structure as much or more than we should given the threats I see around the world. But whatever is the force structure, and it is beyond my pay grade to decide that, the one thing that I am very confident of is that it should be a balanced force structure, and I think we are moving toward an imbalanced force structure.

You mentioned procurement versus R&D. It is my belief that in times such as these that we should invest our money in break-

through R&D. We should not spend a lot of money on engineering development of systems that we probably won't procure.

I would agree with you strongly. In these conditions I wouldn't try to build a big tank that is 20 percent better than the one we have. I would try to find a breakthrough, something that makes a quantum jump.

Mr. DICKS. In other words, this product improves as you go, unless you can make a real major change?

Mr. AUGUSTINE. Precisely.

Mr. DICKS. Don't go for incremental.

Mr. AUGUSTINE. Precisely, and then when you can make an incremental or quantum jump do that. They are possible from time to time.

I suggest you spend money on exploratory development, on basic research, on prototyping, on product improvement of the existing hardware, and occasionally you make a major jump. There are some of those in progress, some that our company has the good fortune to be involved with, as well as other companies. The procurement budget is clearly the weak link of the Defense budget today, in my judgment. I think modernization is at considerable risk. I tried awhile back to calculate how a businessperson might view the Defense budget.

I calculated the asset value of all the things that the DOD owns excluding land and buildings, and it is not an easy calculation to make, but I think I was close, within the ballpark. If you then divide that by our current reinvestment rate, one comes up with a number of about 54 years.

We are on a current reinvestment rate to replace the average item of defense equipment every 54 years. We heard that technology change has a time constant of two, three, seven years, whatever. So I think we have a major problem in this area and I am sure that it is a problem that is not unfamiliar to people in the Department of Defense. But it suggests the enormous pressure that is going to be placed on the Defense budget in the years ahead.

Dr. KAMINSKI. The procurement budget that we have today is recognized by those of us in the Department to not be a sufficient budget to sustain the force that we have in place today. I would describe what is happening here as a transient phase, that it is a time phase to government. We made a plan to pause in procurement during the time that the force structure was being reduced, basically taking old equipment out of the inventory.

We plan to increase the procurement budget. The plans in our five-year defense plan are for it to go up by 50 percent. We need that increase to be able to sustain the force that we have in place today, and a major issue will be whether or not that increase is there when we get to the out years in the FYDP.

We will have to exercise a lot of discipline in managing the Department to do that, that is to reap the infrastructure savings that we are planning upon. We are planning to take the infrastructure down about another 12 percent but we will have to reap the savings to be able to achieve that investment. But there is no disagreement whatsoever, the procurement budget does need to go up to be in balance—

Mr. DICKS. Do you think R&D has been overly protected? Do you think we could have brought that down a bit more in order to protect procurement in the near term and maybe be better off as a country?

Dr. KAMINSKI. I think the ratio of R&D and procurement that we have now, it would not be appropriate for a steady-state condition. What we are doing today is we are building some base to be able to turn on procurement to a greater degree as we move into the out years of the FYDP, and I think protecting that base to be able to build on will be key. I do not think the RDT&E would be out of kilter. It would be out of kilter if the procurement budget would be a steady state where it is today. That ratio of one to one would not be a sensible ratio.

Mr. DICKS. What has it been historically?

Dr. KAMINSKI. I can get you that for the record, but numbers closer to 2 to 1 are—

Mr. AUGUSTINE. I have studied that some over the years and traditionally in peacetime it is 2 to 1, down to 1.5 to 1, in that range. In wartime, it usually goes up to 3 to 1, and today we are around 1 to 1.

Mr. DICKS. Thank you, Mr. Chairman.

The CHAIRMAN. The Chair would like to indicate that in order to accommodate our witnesses we told them 10:00 until 12:00. We don't want to run past.

Ms. Pelosi, did you have another burning question?

Ms. PELOSI. Mr. Chairman, just to thank you for holding this excellent hearing.

The CHAIRMAN. I thank the gentlelady for her attendance.

I would like to say thank you very much. This has been a very distinguished panel.

If it would be agreeable, I would like to submit other things that we touched on some, and at your convenience, if you could answer those questions, the Committee would appreciate it.

The CHAIRMAN. As we mentioned in the initial part of the hearing we will include your statements in the record. We would not want to exclude any other comments you would wish to make anywhere throughout this process.

The CHAIRMAN. If you would like to tell us you are thinking about something that we are doing or not doing, we would very much appreciate it. We are trying to have a very open process here and we need all the help we can get.

I appreciate very much your taking the time to come today.

And the hearing is adjourned.

[Whereupon, at 12:05 p.m., the Committee was adjourned.]

IC21 "WISE MEN" HEARING

THURSDAY, NOVEMBER 16, 1995

HOUSE OF REPRESENTATIVES,
PERMANENT SELECT COMMITTEE ON INTELLIGENCE,
Washington, DC.

The Committee met, pursuant to call, at 1:02 p.m., in room 2118, Rayburn House Office Building, the Honorable Larry Combest (Chairman of the Committee) presiding.

Present: Representatives Combest, Hansen, McCollum, Castle, Dixon, and Coleman.

Staff Present: Mark M. Lowenthal, Staff Director; Michael W. Sheehy, Minority Counsel; L. Christine Healey, Professional Staff Member; Calvin R. Humphrey, Professional Staff Member; Mary Jane Maguire, Chief, Registry/Security; John I. Millis, Professional Staff Member; Timothy R. Sample, Professional Staff Member; Lydia M. Olson, Chief Clerk; Catherine D. Eberwein, Professional Staff Member; Melissa S. Golder, Staff Assistant; Chris Barton, Professional Staff Member; and Susan Ouellette, Professional Staff Member.

The CHAIRMAN. The hearing will come to order.

I am pleased to open the fifth hearing of this Committee's effort for the 104th Congress on IC21, the Intelligence Community of the 21st century. Under the auspices of IC21, the Committee is examining what roles, functions and capabilities the Intelligence Community will need to meet the national security challenges of the 21st century.

Our first hearing featured six former DCIs who offered their views on the organization of the Community and the roles and the authorities of the DCI. We also held a hearing featuring former high-level policymakers who discussed the interaction between the Intelligence Community and policymakers.

We have also held two hearings on enabling technology for the Intelligence Community. This afternoon we will discuss some issues the Intelligence Community will face in the future, including its ability to surge during crisis situations, the role of the DCI, and critical intelligence roles and missions.

The Committee has approached IC21 with no preconceived notions about the future organization or functions of the Intelligence Community. We believe, however, that despite international geopolitical changes, the principal mission of the Intelligence Community remains the same—to supply policymakers with timely information and analysis that allows for informed, knowledgeable decision-making, and to carry out specific operations at the policymakers' behest.

What has changed is the focus of the Intelligence Community's mission, which has shifted in recent years toward greater emphasis on issues such as economic intelligence, terrorism, narcotics trafficking and proliferation.

There is considerable disagreement among experts about whether the Intelligence Community should focus primarily on supporting policymakers and diplomats, or whether it should support other customers such as law enforcement agencies, economic and trade officials or environmental agencies. Still others argue that intelligence support to military operations is the primary function of intelligence.

These debates are not easily resolved, particularly given the lack of consensus on what now defines our national security interests and what role the U.S. should play in world affairs. Nonetheless, through IC21 we intend to address these difficult questions and lay down a blueprint for the future Intelligence Community.

As with most of our IC21 hearings, today's hearing will be an open hearing. I believe the American people understand and appreciate the need for good intelligence as a first line of national defense, but given the Ames case and other recent issues, the public may now be questioning the effectiveness of our intelligence services. By making the IC21 process as open as possible, we hope to strengthen public and congressional support for whatever changes we make to the Intelligence Community and for the Community itself.

Today, we are fortunate to have three distinguished high-level former intelligence officers as our witnesses. John McMahon served for 35 years in various positions as an intelligence professional, including his position as Deputy Director for Operations and as Deputy Director for Intelligence—and as Deputy Director of Central Intelligence from 1982 to 1986. Dick Kerr spent 32 years as an intelligence professional, serving as Acting Director of Central Intelligence in the months after the failed 1991 Soviet coup, and as Deputy Director of Central Intelligence from 1989 to 1992.

General Jim Clapper, who recently completed his military career as Director of the Defense Intelligence Agency, has provided and been very helpful to this Committee with valuable insights into structural problems the Intelligence Community has.

Thank you for coming here to testify before us this afternoon. We look forward to hearing your opinions about the future functions and organization of the Intelligence Community and the challenges it will face as we approach the 21st Century.

Specifically, we are interested in your views on the following subjects. First, what do you see as the major strengths and weaknesses of the Intelligence Community?

Second, does the DCI have the proper authorities regarding budgets, personnel, research and development, appointment of senior intelligence officers, systems planning, and procurement?

Third, what are the major stress points between senior policy customers and the Intelligence Community as a whole, and the DCI in particular?

What steps would you suggest to address these stress points and weaknesses?

And finally, what changes would you recommend in the Intelligence Community to help it cope with the issues the U.S. is likely to face in the 21st century?

The CHAIRMAN. We will hear a brief 10-minute opening statement from each of you. We will begin with Mr. McMahon.

Your written statements in total will be included in the record.

We would note that the Ranking Member, Mr. Dicks, happens to be on the Floor at this time with the Defense Intelligence—the Defense Appropriations bill. He is a very valuable Member of that Committee and cannot be with us. We assume he will join us later.

[The statement of Mr. Dicks follows:]

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U.S. HOUSE OF REPRESENTATIVES
 PERMANENT SELECT COMMITTEE
 ON INTELLIGENCE
 WASHINGTON, DC 20515-6415

OPENING STATEMENT • THE HONORABLE NORM DICKS

IC 21 "WISE MEN" HEARING
 November 16, 1995

Mr. Chairman, I am happy to welcome our distinguished witnesses to today's hearing, the fifth the Committee has held to address the issues pertaining to the intelligence community in the twenty-first century.

Our witnesses have each had long and varied careers in the U.S. intelligence community. The breadth and depth of their experience should serve us well as we grapple with questions concerning the future mission, structure, and personnel of the nation's intelligence agencies.

I am especially interested in hearing from our witnesses their views on the following questions:

- 1) Should the United States strive to maintain its intelligence capabilities at the cutting edge of technology, or should we make do with "good enough" capabilities?
- 2) What is the proper balance between the CIA and Defense intelligence? Is there too much emphasis on one at the expense of the other? Should CIA and Defense intelligence be looking at totally different questions and issues or is some overlap appropriate between the two?
- 3) Do we still need a *central* intelligence agency or should analysis be conducted by individual agencies and departments? And finally,
- 4) What steps should we take to ensure the best possible intelligence *products* are delivered to U.S. policymakers?

Again, Mr. Chairman, I welcome our witnesses and look forward to their testimony.

The CHAIRMAN. I would recognize Mr. Coleman for comments that he might wish to make.

Mr. COLEMAN. Thank you very much, Mr. Chairman.

I did want to, in spite of the fact that the Ranking Member, Mr. Dicks, from the State of Washington, couldn't be here at this hearing, I wanted to also on behalf of the Minority, welcome the distinguished members of this panel.

It is the fifth in the Committee's effort to address the issues pertaining to the Intelligence Community in the 21st Century. I appreciate the Chairman's efforts in this regard.

During this particular time, I think that people are seeing and continue to see the debates going on, the arguments, a lot of the problems that we are currently having in attempting to run this government. There is nonetheless, I am proud to say in this particular Committee, a view that we are all in this together and that we certainly share on both sides of the aisle a common destiny as Americans and we understand that, particularly when it comes to how we view the importance of intelligence gathering, the national defense and other issues that are pertinent, I think, to what many Americans expect of all of us. They do expect of all of us to question expenditures.

At the same time, they do expect of all of us to be as open as possible, even in this Committee, with them about where we are headed, the purposes for which we create various departments within our agencies, and so I think it is very important to have before us here the breadth of knowledge and vast experience in the varied careers in the U.S. Intelligence Community. I think it will serve this Committee and the Nation well as we continue to grapple.

It never ends, does it? As we continue to grapple with questions concerning our future missions, structure and personnel of the Nation's intelligence agencies, I, too, am interested in the questions that were asked by the Chairman.

In addition, of course, we on our side of the aisle would like to know whether or not the United States should continue, it is a very basic question, continue to strive to maintain its intelligence capabilities at the cutting edge of technology. I think many would agree that would be more expensive than perhaps the alternative, making do with what we now know would be good enough for utilizing some of the facilities and abilities that we have been able to develop over the years without looking toward creating new technologies.

Secondly, what is the proper balance between the CIA and the defense intelligence agencies? Is there too much emphasis on one at the expense of the other? Should the CIA and defense intelligence be looking at totally different questions and issues, or should some overlap in fact even be considered appropriate?

Do we still need a Central Intelligence Agency or should analysis be conducted by individual agencies and departments?

Finally, what steps should we take to ensure the best possible intelligence products are delivered to United States policymakers?

Again, Mr. Chairman, I welcome our witnesses and look forward to their testimony.

I thank the Chairman for yielding.

The CHAIRMAN. I thank the gentleman.

**STATEMENT OF JOHN N. McMAHON, FORMER DEPUTY
DIRECTOR OF CENTRAL INTELLIGENCE**

The CHAIRMAN. Mr. McMahon, we will begin with you. Please proceed as you wish. Then we will go to Mr. Kerr and General Clapper.

Mr. McMAHON. Thank you, Mr. Chairman, Members of the Intelligence Committee. I welcome the opportunity to appear before you today on the issue of the Intelligence Community of the 21st Century.

It is appropriate and commendable that the Committee is holding these hearings intent on fashioning for our Nation a course and direction for the Intelligence Community of the future.

As far as the Intelligence Community is concerned, I do not suggest any major realignment of the IC organization, but some adjustment of the functions may be in order to address the needs of today and the future.

Let me hasten to add that I do not feel that a great deal of time need be spent trying to articulate at this time what the requirements are. Enough adjustments have been made since the end of the Cold War and the needs of the Executive have been promulgated to the DCI, that informal dialogue between the policymakers and the Director of Central Intelligence should suffice in keeping the requirements message current until new events suggest another requirements review.

What the Intelligence Community needs to do is a better job in satisfying the requirements that have been around for a long time, and haven't been fully addressed. The President has spelled these out in the Presidential Directive and the Community is struggling to answer that mail. As you may suspect, they deal with the closed societies that continue to exist today.

Support to military operations needs further honing, but at least the Community is well alert to its shortcomings. I believe that the Committee will find that a major problem exists in getting the right information to the shooter, and that is basically a communications problem. There is duplication of analysis of foreign weapons systems between the services and DIA. I would assign the analysis of such systems to the service most concerned, as opposed to the duplication of same in DIA. Make DIA responsible for maintaining a worldwide database necessary to support military operations and the involvement of U.S. troops for whatever reason, as well as provide analysis of military situations and foreign military posture.

It would be useful if we could instill in the Department of State a responsibility for more political reporting to the Community. Some embassies do an excellent job of it. Others claim that it smacks of spying and provides little. Ambassadors must set the stage. During the crises, the embassy personnel can provide invaluable ground truth and local color necessary to understand fully the unfolding events.

There has been some discussion of establishing a separate agency for counterintelligence. I do not support that. Counterintelligence has to be an integral part of the conduct of any intelligence operation. It is fundamental to the successful running of a clandestine

operation. In light of the Ames case and associate internal CIA failures and disasters, I do support the heavy infusion of FBI counter-intelligence personnel into CIA to assist, not only in the CIA assessments of ongoing CIA operations and the validity of its reporting, but also in assisting on security cases of CIA staff personnel.

There is great pressure of late for the Intelligence Community to support law enforcement. I worry that CIA will get drawn into situations where its sources are at risk through the litigation process, or that its personnel in their eagerness will cross the line which precludes CIA from having no police function. Great and constant care must be exercised in any such activity, and I would keep the IC lawyers very much involved if CIA is called upon to participate.

Covert action is a proper function of CIA. As the saying goes, there must be some option between sheer diplomacy and calling out the Marines. Covert action, however, should not stand alone, but be slaved to our foreign policy. A subtle articulation of our policy, if you will.

The CIA is well-equipped to handle covert action, since the assets which provide intelligence are often of the caliber to be very useful in influencing and executing a covert action.

I am a strong advocate that all covert actions be notified to Congress without exception. I submit that the very operations which would prompt the President to take advantage of the current provision in the law not to tell Congress, are the very operations which should be flagged to congressional attention.

Actually, when one takes stock of the Intelligence Community, it is a rather awesome capability. The strength of the Community lies in its dedicated people and the tremendous infrastructure they have built. They also have at their fingertips all the resources which the United States have to offer, which include an academic community second to none in the world, a contractor corps with all kinds of hardware and software technologies, and a substantial budget.

Yet in spite of all of this, we do see weaknesses crop up in the limited coverage we have in certain countries. As I mentioned before, we as a Nation have limited access to these countries. There is a certain void in understanding their military posture and political intentions. While such a situation does not threaten the U.S. national security, it does form an uncertainty for us to deal with.

Also, there has been an obvious weakness, I am sorry to say, in the personal judgment of some CIA individuals. From what I hear, such failings have been rectified and the disciplinary tone and guideline have been set, which I trust will keep all intelligence personnel on the proper course.

The DCI does have adequate control over the Community, although it is far from absolute. In times past, his budget authorities can and have fallen victim to some tinkering in the DOD's Comptroller shop in the last hasty minutes before the Pentagon budget is put in place.

This does not seem to be a problem between the current DCI and the Secretary of Defense, but it should be clarified for the future. The DCI does have the proper authorities in his portfolio to handle R&D and procurement, but it would be useful if he could have veto authority over the nomination of personnel to head the various in-

telligence agencies in the Intelligence Community. And it should be clear that they report to the DCI on intelligence matters.

The stress point between the policymakers and the DCI is that desire to have intelligence support policy views. I don't look upon this as a major problem, but there is always a tugging on this score when policy precedes intelligence input.

During a crisis or an issue demanding White House attention, there is always a problem when the different departmental agencies publish their own homegrown version of national intelligence, instead of relying on the DCI to provide the President with the single interagency view under his signature.

This latter situation can be rectified by reaffirming the DCI as the mouthpiece for intelligence, and the former can be alleviated by the DCI publishing intelligence before policy opinions are formed in concrete. Obviously, close and continuing dialogue is necessary between the policymakers and the DCI.

Intelligence systems of the future must place as much emphasis on exploitation and dissemination to the users as they do with collection. Historically, we have focused on collection with exploitation and dissemination taking the hind post. The Community has always been responsive in providing a surge capability to meet a crisis situation, but we could probably benefit from more orderly planning in that regard. We do need more emphasis on language capability, not only to meet surge requirements but day-to-day analysis and operations as well.

And finally, Mr. Chairman, there has been some consideration in town about the need for a Director of National Intelligence or, in other words, an Intelligence Czar. I argue against such a proposal. The concept for the DCI was most proper when Congress passed the National Security Act in 1947, and it remains so today.

The word "central" was to provide a focus for all intelligence in the U.S. to come to a single point where it could be collated and analyzed for the President and the National Security Council, unfettered by departmental bias or parochial views. The President's principal intelligence advisor needs the database and support of an organization, that is the CIA. To establish this Czar or DNI would force him to duplicate a CIA or simply lack substance, in which case, people in Washington would gravitate to the head of CIA because that is where the intelligence and knowledge would be.

That concludes my remarks. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. McMahon, thank you very much.

[The statement of Mr. McMahon follows:]

Testimony of John N. McMahon
Permanent Select Committee
on Intelligence
U.S. House of Representatives
November 16, 1995

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Actually, when one takes stock of our Intelligence Community, it is a rather awesome capability. The strength of the Community lies in the dedicated people and the tremendous infrastructure they have built. They also have at their fingertips all the resources which the United States has to offer, which include an academic community second to none in the world; a contractor core with all kinds of hardware and software technologies; and a substantial budget.

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This later situation can be rectified by reaffirming the DCI as the mouthpiece for intelligence and the former can be alleviated by the DCI publishing intelligence before policy opinions are formed in concrete. Obviously, close and continuing dialogue is necessary between the policymakers and the DCI.

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Thank you, Mr. Chairman.

John N. McMahon

John McMahon was born in East Norwalk, Connecticut, on 3 July 1929. He earned his B.A. Degree from Holy Cross College in 1951 and later completed the Advanced Management Program at Harvard University.

Formerly a Deputy Director of Central Intelligence, Mr. McMahon joined the Central Intelligence Agency in 1951. He served overseas for 5 years then went through basic training with the U.S. Army before joining the CIA reconnaissance activities with the U-2 and satellite systems. Mr. McMahon held the positions of Assistant Director of CIA for Administration, Acting Director for the Intelligence Community Staff, Deputy Director of CIA for Operations, Deputy Director for Intelligence, and served as Executive Director of CIA responsible for the day-to-day management of the agency. In June 1982 Mr. McMahon was appointed by President Reagan as Deputy Director of Central Intelligence, a position he held until his retirement in March of 1986.

In September 1986, Mr. McMahon joined Lockheed Missiles and Space Company. He served as Executive Vice President for the Company and Corporate Vice President until August 1988 when he was elected President of the Lockheed Missiles and Space Systems Group and President and CEO of Lockheed Missiles and Space Company. Mr. McMahon retired from Lockheed in December 1994.

Among his honors are the National Security Medal presented by President Reagan, three Distinguished Intelligence Medals, the Intelligence Medal of Merit, the Certificate of Distinction, two National Intelligence Distinguished Service Medals, and the Certificate of Recognition--the William A. Jump Memorial Award. Upon his retirement from the Central Intelligence Agency, Congress passed a concurrent resolution commending his service to our country. He was recently awarded NASA's Distinguished Public Service Medal; and in May 1995, the William Oliver Baker Award was presented by the Security Affairs Support Association for excellence in national security affairs. Mr. McMahon was the 1995 inductee into the Hall of Fame of the National Management Association.

Before retiring, Mr. McMahon served on the Boards of the Santa Clara County (California) Manufacturing Group, the San Francisco Bay Area Council, the Leavey School of Business at the University of Santa Clara, and the San Jose Tech Museum. He also served on a number of Government and Congressional advisory panels, as well as President Bush's and President Clinton's National Security Telecommunications Advisory Committee.

Mr. McMahon now serves as a consultant to the Lockheed Martin Corporation. He is a Director on the Board of Lockheed Khrunichev Energia Inc. He also serves as Board Director to the Defense Enterprise Fund and is a member of the Corporation to Draper Laboratories.

**STATEMENT OF RICHARD J. KERR, FORMER DEPUTY
DIRECTOR OF CENTRAL INTELLIGENCE**

The CHAIRMAN. Mr. Kerr.

Mr. KERR. Mr. Chairman, Members, again I echo John's voice in saying I appreciate the opportunity. And I am not going to read my statement because you have it available to you. I would like to expand on what John was talking about. I don't think I have any fundamental disagreements. If I do, I am not bashful about expressing them. I will spend most of my time focusing on the Central Intelligence Agency because I believe that organization is the one that is in most trouble, but also I think it is at the core of the discussion.

I think you need a very strong, civilian-dominated Central Intelligence Agency. I think the DCI strength comes out of that organization. While he has programmatic and budgetary impact on the defense budget, let's face it the Secretary of Defense is going to have a major say in how his monies are spent on major national programs. But it is important that CIA have an independent voice and the DCI have a say in that discussion.

I believe it should be a full-service organization. It should be involved from the beginning of development of collection systems through providing the final product to the customer.

As you will note in my comments, I am concerned about what I see to be a growing dominance of the Defense Department in every aspect of intelligence. And that is not a negative comment on defense. I am very proud of the Defense Department where I have a lot of friends and associates. They have a major mission to perform, and I believe they are doing it rather well.

They have changed themselves, they have revolutionized themselves in many ways. Not fully, but at least they have started. It is not obvious to me the Intelligence Community has kept pace in that revolution. But I think the Defense Department needs to be balanced by a civilian organization that has a different perspective on requirements, a different view about how money should be spent. It should have the strength, in my view, to argue its case, not only with the DCI obviously, but with the other elements of government, the policy elements, and ultimately with the President.

I am concerned because defense tends to be focused on current crises. It focuses on where the battles are being fought. And it should. But in that process, it can eat up all the resources of every intelligence organization and every collector and every clandestine agent.

I will tell you, for example, that the staff that worked on Desert Storm in the Pentagon was as large as the full staff of DO operators overseas during the same period. You have to put this scale in perspective.

I think you do need a very strong Central Intelligence Agency—I know this is not a popular time to stand up and say I am for Central Intelligence. But I will do that. Because I think the function it performs is essential and the people there are extraordinary. I think it has done an exceptional job overall. I think it is still doing a good job.

Mr. Chairman, you have some knowledge of the things that are ongoing now better than I do, but I am sure that CIA is doing some things right now that are very important to national security. This is not to say it doesn't need change.

If I would have come to this Committee some time ago, perhaps I would have said that what is needed is a fundamental change—start it all over, break it all down and start from zero and create an intelligence organization that fits today's world, that wasn't a creation of 35 or 40 years of Cold War. But quite honestly, thinking about that over time, it seems to me that is not realistic, it is not going to happen that way, everything should not be torn down and cannot be.

The bureaucracies are too strong, and if you started out again, you would end up with some of the same organizations performing most of the same missions in many of the same ways. So I am afraid that revolutionary change is not in the cards, although it is attractive and it sounds good, particularly when you are under fire and when people are looking for change. The changes needed are much more subtle, and more difficult to explain to people.

I think the clandestine service is an extraordinary organization. I think it has done some very impressive things over the years. It is also a very insular organization. It is not very well-trained, except in its own trade. It does not have much experience outside of its own sphere of operations. It does send its people on rotational assignments or to work elsewhere. It is single-minded and oriented toward its business.

That is part of the reason it has gotten into trouble. It needs to bring others into its problems. It needs to bring others from inside and outside CIA into its clandestine collection.

It needs to have more of a focus on specific collection problems and work task forces with other organizations and work less as solitary officers who make decisions, based on their experience.

I think training and management are very key. It is very hard to have management by direction. You can write rules, put them in legislation or in Executive Orders, but it comes down to personal responsibility, knowledge about the business of intelligence, and a broader perspective of the politics and the responsibilities. And that, requires training as well as experience.

I think the military is far ahead of CIA, in the way it trains.

It is time it take a look at the oversight mechanisms.

We have created a large body of rules and regulations and guidance—not only from Congress in law, but from executive orders—that need to be reexamined in the light of a new—a different perspective in the world.

In my view, oversight has become too much of a “let's find the culprits and punish them,” and not enough of “how does the business work, what are the fundamental ingredients of intelligence and how well is it doing.” And I give this Committee a fair amount of credit for its attention to substance. I mean, testifying before this Committee wasn't as bad as going to the dentist—maybe sometimes it was. This Committee listens and spends a lot of time on the substance of the business of intelligence. And I find that reassuring. And I found the Committee interest in the substantive part of the business of intelligence to be important. I think if there is

any way for it to get more involved, for instance, you used to have a weekly briefing.

I spent most of my time as an analyst in the CIA. Again, I think its strength in this area is impressive. It is a very strong analytic organization. I think the argument that says we should limit analysis to things that deal with secrets makes no sense.

The analytic element of CIA and the rest of the Intelligence Community needs to deal with problems that face the policymaker or are going to face the policymaker. That is a very broad set of problems. You just don't learn to deal with such an array of issues overnight or create a corps of analysts that is competent in a short period. You need a base of people who work problems over the long haul, who understand their issues in depth, who are competent and have continuity, and who can assimilate a wide range of information.

I think the major problem that the DI now faces is its manpower and expertise is too thin. I think we should put more resources into analysis.

The CNN approach to information is interesting and valuable, but it is no substitute for understanding. This is an area where I have some difficulty with Defense. Sometimes Defense appears more interested in moving information around than understanding it.

I think the major problem of the DI is going to be how to assimilate and understand and manipulate that vast amount of information, other than secret information, and bring it together. And that is an area where they are going to need your help, because that is an expensive business.

Most of their systems that do—that either store or aggregate or help them do analysis look like they are out of the 1950s. They are not modern, they are not at the front edge of the information revolution, they are not even close.

Finally, just one comment on economic security. This is a big debatable issue, I know. I believe that the Intelligence Community can do a lot more than it now does in the economic intelligence area. And when I say that, I don't mean going out and breaking into people's safes and getting some company's secrets. What I do mean is an understanding of the setting and the way people do business, the way countries are investing overseas, how they use their capital, how they operate, the barriers they put up to competition, and where the opportunities exist. There are some very real things that can be done in that area.

I will stop, seeing the light came on, Mr. Chairman.

Thank you.

The CHAIRMAN. That is just a guideline, Mr. Kerr. I don't want to stop you in mid-thought. We don't want to ask you here and then tell you to shut up. So that is just a time frame. But I don't want to stop you.

Mr. KERR. I will say this in expanding on John's mention of the DCI, I think the DCI should be someone who is appointed by a sitting President. There should not be a term, but someone who has the confidence of the President and who is a peer of the Secretary of State, the Secretary of Defense, and the National Security

Advisor. Otherwise, I think the DCI will be only a functionary, and not to have major impact.

The major line positions in CIA should be filled by professional officers, not by people brought in from the outside. I think the idea of bringing civilians in who worked outside the Intelligence Community to head line offices in the CIA is a mistake. It is a little like bringing a civilian in to head the Air Force or the JCS. I don't think it makes any sense. Intelligence is a profession. And I am not saying don't bring anybody in from the outside. There are many jobs in many areas where people should be brought in. But the way to, to use outsiders is to bring them into the business of analysis and collection, and there are ways to do that. I will finish by saying I think the DCI—I am not overly impressed by PFIAB and its contribution to the Intelligence Community—need a different management team. At one time PFIAB was an extraordinary force in the intelligence area, but I think the DCI needs a very strong set of advisors close to him to help with a very complex set of problems of collection and analysis, using the newest technology. And I don't think he can do that relying on the heads of intelligence organizations as his advisors or his own internal organization. I think he needs a much stronger advisory group.

And I will stop there, Mr. Chairman.

The CHAIRMAN. Thank you, Mr. Kerr.

[The statement of Mr. Kerr follows:]

Testimony before the House Permanent Select Committee on Intelligence--16 November

Statement of Richard J. Kerr, former Deputy Director of Central Intelligence

Mr. Chairman, members of the Committee and staff, I welcome the opportunity to appear at this hearing to discuss the intelligence community. I spent 32 years in a wide variety of assignments in CIA and the Intelligence Community and retain my strong interest in those organizations and in the profession of intelligence.

This is a difficult period for CIA and a tough time for someone to argue its merits. But I am proud to have worked at CIA for thirty plus years. The Agency did some extraordinary things for this country. I was part of those successes. I do regret some of the things I did not do, some of the questions I did not ask, some of the actions I did not take. As to personal responsibility, I am a product of CIA's culture and I influenced that culture. I share its credit for what it did well and share the blame for its shortcomings.

Given the chance to offer personal views on the Intelligence Community, it is tempting to range widely and address all aspects of the business of intelligence--the implications of the end of the Cold War, the national security problems now facing the US, and the full range of intelligence activities--from R&D through the various collection disciplines and into finished intelligence. I believe, however, it is worthwhile to focus on a few key issues and some ideas for how to improve performance in the future. I also plan to center my comments on CIA. It is in real trouble and is the core of most debate. That does not mean that I believe the NSA Security Agency and the National Reconnaissance Office and other elements of the intelligence community are unimportant but I will leave them for another discussion. Finally, I am not going to spend a lot of time on past shortcomings--there are already too many experts and amateurs wallowing about in that area.

I would like to address five issues:

1. The need for a strong, independent central intelligence agency and some concerns about the increasing dominance of the Department of Defense.
2. Concerns about the clandestine service of CIA.
3. Oversight and management of the Intelligence Community.
4. Analysis and the customer.
5. Economic security and intelligence.

A Central Intelligence Organization

General: An organization that reports to the President and supports the national security agencies and departments as well as Congress, but has no direct ties to policy making organizations is crucial. It can provide information and judgments that are not colored by commitment to a particular outcome. Such an organization also can be an advocate for intelligence programs that are national in nature and do not just serve a particular military service or agency. Some observations:

- I believe that the Director of the Central Intelligence Agency (who is also the Director of Central Intelligence) should not serve a specific term. The position should be filled by someone chosen by the President and who is a peer of other key policy makers in the national security arena. Line officers in the CIA should be intelligence professionals. The Deputy Director of CIA should be an intelligence professional, possibly from the clandestine service. I am not arguing that no one from the outside can be brought in, but key line jobs--like the heads of the military services--should be held by professional officers. Intelligence is a profession.
- being independent is not enough. To be effective CIA must have clout--clout with other organizations that compete for influence and money, especially the Defense and State Departments. Authority overseas as the focal point for activities and liaison, leadership in R&D and the procurement of intelligence collection systems, and a real claim as the premier analytic organization are key attributes.
- over the past few years CIA appears to be treated as just another unit in the intelligence community. The Intelligence Community Staff, DCI centers for narcotics, terrorism, and nonproliferation were set up at the expense of CIA central role. Defense, in particular, has been given control of more and more activities where CIA once played an important if not dominant role. The imagery business is the most striking example, but there are many. CIA currently appears to be just another agency in the Defense budget process. CIA is just one of several organizations that compete for influence overseas (a situation that must delight and confuse our foreign partners and targets). Much of the current debate about intelligence addresses the issue of DCI authorities. A strong and independent central intelligence organization is at the core of DCI authority.
- The emphasis on support to military operations has been healthy. The "bloody end of the stick", "the point of the spear", "getting the intelligence to the warfighter" are good slogans and sound principles. Most of expensive technical collection systems are justified because they support the military in war. Consequently the military should have a strong voice in what is purchased, how it is targeted and where the resulting information goes. CIA must support military operations. But it has other objectives that are equally important--providing intelligence and supporting activities aimed at avoiding the use of military forces and addressing the complex set of issues outside the military sphere.
- covert and political action (under the control of a civilian intelligence organization) probably is more important now than at any time since the end of WWII. It appears that the capability and will to conduct such activity is woefully lacking. When it comes to imposing US will, we are more comfortable sending fighter aircraft to strike targets than using covert military or political action to influence the outcome. Covert action is a useful tool only when it is part of a much broader and integrated policy initiative. Political action is not a panacea and requires a clearly developed objectives. Accepting these conditions, covert action is an instrument for the US. In my judgment, paramilitary "covert" actions should be run by a civilian organization.
- heavy involvement by the Defense Intelligence Agency in clandestine operations is a mistake--not just for the nation but for DoD. The clandestine operations

business is filled with pitfalls, requires a major infrastructure, and oversight. Protection of overseas facilities and preparation of the battle field are legitimate areas, but it is not hard to imagine CIA, DIA and the FBI running into each other on a regular basis only to acquire marginal information. It also is easy to imagine the Secretary of Defense spending a lot of time on the Hill explaining what went wrong.

--One additional point on Defense and intelligence. Without CIA and support from civilians outside CIA, imagery satellites, the U-2 and the SR-71 would not have been so aggressively pursued. The military services necessarily focus on their own interests and enhancements that help their forces. They have not been major supporters of national programs until they found they could not do without them. Defense also will eat up all the collection resources to support current crises. It is important to have a strong civilian organization that competes for these resources operating from a different set of priorities. CIA needs to revitalize itself as a technological leader. While it may not drive technology today, it can take the lead in applying commercial technology to intelligence with streamline procedures and a minimum of bureaucracy.

The Clandestine Service

General: The most distinctive feature of CIA, other than its independence from policy elements, is the clandestine service. Technical collection and analysis are conducted by a variety of organizations. The recruitment of agents, the conduct of paramilitary and political action to support US policy are activities that each require special set of rules, a special group of people to conduct them, and a special type of oversight. The present capabilities and practices in each of these categories are seriously flawed. The current leadership is making important changes but progress is slow. Some observations:

--the clandestine service of the Cold War does not serve present needs. It probably got too big, too walled off, and too isolated. Much of its "culture"--independence and flexibility, --must be maintained. But like the US military after Vietnam, it needs an overhaul. Introducing rules, directives and structure may make the senior managers feel more comfortable, but a clear statement of mission, training and new creative ideas that originate inside the organization probably are more critical. Most important is strong leadership from within.

--cutting back on the number of clandestine stations overseas (and cutting back the State Department presence) makes little sense. Regular contact with foreign governments, the elite in a country, the opposition and future leaders is a primary task of CIA overseas. These activities are not substitutes for diplomatic presence but additive and involve people and relationships that are different than those of State. It also is useful to have lines of contact open when diplomatic channels are clogged or strained. The clandestine service needs to be world wide. Our ability to predict where the next crisis will occur is not particularly good.

--the targets of the clandestine service have changed. Recruitment of agents of real or potential adversaries is still of prime importance. But in most countries access to those with influence, whether they are controlled agents or not, is equally valuable. Being in the right place and having entree to the right circles is extremely valuable.

--we need to reassess what is valued about officers in the clandestine

service. There will be increasing need to work in teams and in task forces. More and more of our business is going to be done by multidisciplinary teams targeted on specific problems and missions. That does not mean that we should make generalists out of all case officers--tradecraft and experience in operations remains key.

- the clandestine service has not valued assignments outside its core activities. Over the past ten years or so, senior executive positions in the Agency were usually filled by officers from the Directorate of Intelligence. Officers from that organization usually had served in a variety of positions inside and outside CIA. The career promotion boards in the clandestine service did not credit work outside the service. Having DDI fill most senior officers in CIA meant there were real gaps in knowledge about how the clandestine service functioned. They were not in a strong position to question how things were done. I have specific examples in officers from the clandestine service that worked as special assistants when I was DDCI. They were not credited for that assignment by their promotion panels.

Oversight and Management of the Intelligence Community

General: This is a subject on which it is easy to pontificate. All of the old chestnuts appear. The simple fact is that managing a large, secret organization that does illegal things overseas is difficult and risky. CIA has had some exceptional managers and even they have gotten into problems. The Agency officers reprimanded because of their involvement in Iran-Contra, Guatemala and the Ames case had impressive careers and were among the most impressive people I have met inside or outside government. I believe that says something about the difficulty of the job.

Management: The DCI's primary management team is composed of the Director of NSA, the Director of DIA, the Director of the NRO, the head of INR and often someone from CIA other than the DCI or DDCI. This group cannot provide strong advice on issues that affect the intelligence community as a whole because their interest necessarily must be driven by the interests of their own organizations. CIA tends to be the loser in this process because it is not represented by its head--the DCI must be seen as ecumenical. The President's Foreign Intelligence Advisory Board is not an important source of support for the intelligence community or a valued critic. It does not seem to carry weight with the National Security Advisor or the President and it has little visibility in technical circles or in Congress.

--it might be useful to create a real board of directors to advise the DCI. While it is not customary for advisory boards in government to have much clout, there is no reason why a board drawn from industry, academia, retired military and intelligence officers, information gurus and scientists could not be given some authority for directing the intelligence community and CIA in particular. It could have direct impact on new programs and personnel appointments. It could give advice on programs and activities. It could be both an internal critic and an external supporter

Oversight: There is no question that an organization that has special authorities and operates in secret needs strong oversight--by its own Inspector General, by the Executive, and by Congress. But oversight is more than a search for any violation of the rules or the law. It should also be advocacy. Good oversight should identify what went right as well as what went wrong. I understand why the oversight committees are angry about not being kept well informed--they have assumed that responsibility for their fellow

members and feel hung out when some flap occurs on a situation about which they are not up to speed. But sometimes what happens to them becomes more important than how well CIA does in accomplishing its fundamental mission.

-- Oversight should involve assessing the impact of intelligence on policy. The question of whether the Mexican financial crisis was well covered by intelligence probably is as important as transgressions in Guatemala. The quality of policy and the impact of intelligence on that policy are important questions that need to be addressed. Has CIA had an impact on US policy in Bosnia? If so, why doesn't someone say so? If not, why isn't that the subject of review?

--oversight itself needs to be reexamined now after 20 years of proliferating organs and activities. The way we do oversight today is not consistent with a serious, effective intelligence effort over the long haul. It had gotten too political, too publicity prone and lines of responsibility are too confused. It is time to examine the executive orders, laws and directives that bear on clandestine operations and on other aspects of intelligence. Although I am not a fan of "blue ribbon" panels, a group of former legislators, some legal experts, some retired clandestine service officers and others could develop a comprehensive package for consideration by the Executive and Congress. Strong oversight but enabling. Clear and concise direction that gives guidance but provides the maximum flexibility.

Analysis and the Customer

In my judgment the Directorate of Intelligence continues to provide outstanding support to its customers. But the requirement to cover more and more subjects while cutting manpower jeopardizes its ability to do serious, in depth analysis. One of the basic questions posed about analysis is whether CIA should become a reference service for the US government or focus just on those areas where secret information is key. The answer is neither. CIA must address those subjects that engaged or should engage policy makers. That means intelligence will need to be positioned to respond to a wide range of questions--economic, political, social and military. Obviously there are priorities--nuclear proliferation gets more attention than economic trends in Africa. But the role of South Africa in the economy of sub-Saharan Africa deserves attention. Both problems require a broad flow of information, experienced analysts and interested customers. Some observations:

- although some critics argue that the importance of technical intelligence went South with the end of the Cold War, nothing could be farther from the truth. Today a number of countries sell advanced weapons systems and the support to go with them in the open market. Some very sophisticated threats can be put in place rapidly. This poses a real challenge to intelligence. The answers are not available just by reading the sales brochures.
- in this age of the one liner, many believe that information equates to understanding. Continuity and experience still count for something. Experienced analysts with a deep sense of history and access to the full range of classified and open source information are key to serving the policy maker. The capital stock of expertise needed for deep analysis is being depleted.
- the current written product of CIA--current intelligence, research products and estimates--need updating. The customers should get a product tailored to their needs. They should be offered some choices in how they received information.

They should be able to talk to key analysts. Consideration should be given to resurrecting the National Intelligence Survey program that provided detailed country by country information on subjects ranging from geography to financial systems. Such a program, run by CIA with participation of the DoD and other agencies, would provide an important base of information for the entire government.

- teaming with the outside world is imperative. National Estimates should be drafted by floating teams of experts drawn from the press, academia, the business and scientific worlds, and "even" foreign experts.
- perhaps the major challenge is to tap all the sources of information and integrate them into the final product. Information systems and analytic techniques to help the analyst move through this maze are slow coming and will cost a bundle, but they are worth the time and money. While "surfing the net" is the current fad, intelligence must focus on national security policy that deals with sensitive and often dangerous issues. There must be security and control--not strong points of the Internet world.
- CIA should continue to be in the military analysis business. It is important that alternative views about the military threat and effectiveness of US military operations be available. CIA should maintain an independent imagery analysis organization. It should be in a position to assess the impact of the air strikes in Bosnia. It should be deeply involved in assessing the implications of introducing NATO ground forces into the region. This type of analysis makes military planners and policy makers uncomfortable. Certainly if done in public or used for political purposes by the Congress, it can be destructive. But issues like this are too important not to use the full resources of the government.

Economic Security

CIA, State, Treasury and Commerce do a good job in supporting the US during economic negotiations and on issues that are primarily driven by government policy and actions. It is less clear that these organizations help US industry to compete abroad. Economic intelligence is controversial because the debate often focuses on economic espionage. Economic security is too important to be left solely to the "interested" departments like Treasury, Commerce, and the USTR.

- more can be done to support the interests of the US in the area of economic analysis. Some consideration should be given to establishing a partnership between CIA, a university, and some private or federally funded group. The objective would be systematic, all source analysis of current or prospective economic issues. That analysis could be based on classified and unclassified information and be made available to government and (in some sanitized form) to the private sector. An example of the work that could be done: Vietnam. A broad body of information should be available to the US government and potential investors. For example, information on the current infrastructure or lack thereof--telecommunications, electric power, transportation, banking and finance, and labor. In addition, information on the basic strategies of other countries. How are they investing? Where and how do they arrange credit, buy land, hire labor, contract for services? Who are the principal players? Is this the job of CIA? I believe so.

RICHARD J. KERR

SUMMARY

Richard Kerr served in the Intelligence Community for 32 years--from September 1960 until March 1992. He started as a country analyst in CIA and ended his career as the senior professional intelligence officer in the US government serving as Deputy Director of Central Intelligence. During his career, he managed a full range of CIA elements, served in all four directorates and led two of them. He also had key jobs on the Intelligence Community Staff and spent two years on the staff of the Commander in Chief, U.S. Forces Pacific. He currently serves on corporate boards, serves as President of the Security Affairs Support Association (SASA), sits on advisory panels for NSA and DOE laboratories, and is a frequent consultant to government and industry.

EDUCATION

B.A., History, University of Oregon
 Graduate work at the University of Oregon

PROFESSIONAL EXPERIENCE

Government:

First major assignment at CIA was as an analyst following the Soviet forces in Cuba during the 1962 missile crisis. He continued to work on Soviet military forces for several years.

He served as CIA representative to the Commander in Chief, U.S. Forces Pacific from 1968 to 1970 and returned as chief of the unit working on China and North Korea.

From 1972 to 1978 he worked on Intelligence Community activities--first as chief of a group preparing for the introduction of a new overhead collection system, then as deputy and chairman of the Committee on Imagery Requirements and Exploitation (COMIREX) and finally as Executive Officer to Admiral Dan Murphy and John McMahon, who headed the Intelligence Community Staff.

Between 1978 and 1982, he served as the deputy or chief of several intelligence production offices within CIA--the Office of Political Analysis, the Office of Current Operations, and the Office of East Asian Affairs. In the 1980 he was responsible for liaison with the new Reagan Administration and continued to provide daily briefings to senior administration officials through 1981.

In mid-1982 he was appointed Associate Deputy Director for Intelligence. In early 1986 he was appointed Deputy Director for Administration by DCI Casey. In this assignment, he managed all support functions for CIA: ADP, communications, financial, logistics, personnel and security. Later in 1986, he was appointed Deputy Director for Intelligence. In that capacity he was responsible for managing all CIA intelligence analysis and production.

In December 1988, he was nominated by President Bush to be the Deputy Director of Central Intelligence. He was confirmed by the Senate the following March. He served in the dual capacity of Deputy Director of CIA and Deputy Director of Central Intelligence, with policy and top level management responsibility for both CIA and the Intelligence Community, until his retirement in March 1992. During that period he served for three months as Acting Director of Central Intelligence.

After Retiring from Government

Since retirement, he has maintained an active interest in the intelligence community and national security affairs. He is President of SASA, the leading government-industry organization in matters of national policy and technical development. He is on the Scientific Advisory Board of the National Security Agency and the Board of Visitors of the Joint Military Intelligence College. He serves on the Board of Trustees of the MITRE Corporation, chairs the Board of Advisors of ManTech International and sits on the board of advisors for the Aegis Research Corporation. He sits on advisory boards for the Los Alamos National Laboratory, the Lawrence Livermore Laboratory and the Los Alamos National Laboratory.

He serves as a consultant to government and industry and currently is involved in studies examining the future of the intelligence community.

AWARDS

During his career, Mr. Kerr was awarded two National Intelligence Distinguished Service Medals for work in the Intelligence Community, and two Distinguished Intelligence Medals for work in CIA. He was given the Citizens Medal--the nations second highest civilian award-- by President Bush for his work in support of Desert Storm.

FAMILY

Mr. Kerr has been married to Janice Sinclair since 1953. They have four children--Randall, Andre, Kevin and Meagan--and six grandchildren.

**STATEMENT OF LT. GEN. JAMES R. CLAPPER, RETIRED,
FORMER DIRECTOR OF THE DEFENSE INTELLIGENCE
AGENCY**

The CHAIRMAN. General Clapper.

General CLAPPER. Mr. Chairman, distinguished Members of the Committee. I, too, am very pleased and honored to again appear before you. I have already shared with the Committee on the 10th of October, some of my views on the need for perhaps a more radical approach to at least the examination of the composition of the Intelligence Community in terms of its organizational and operational structure, programming approach and leadership arrangements.

The other point, and I think I am reiterating what my colleagues have said, is that I want to stress how crucial I feel the work of this committee is with respect to the future of the Intelligence Community.

I say this because it is my firmly held conviction that if there is to be real meaningful, significant change in the Intelligence Community, it will have to come from without. Not from within. Because having recently been a part of it, I don't believe that the Community in and of itself is capable of fundamental reform. That is not a pejorative comment, it is, in my view, a statement of fact.

I think we all start from the premise that the United States has the most capable, robust intelligence capability in the world. We have a tendency to dwell on the problems and the warts, forgetting the fact that we have that capability. I think that is part and parcel of our role as the major power in the world, and if we are to continue that role, then that inherently requires a capable intelligence professional cadre of people and systems.

I think our strengths lie fundamentally, no matter how we arrange the deck chairs, lie fundamentally with our people and the technology at their command. These very strengths, and the Community's successes (and they are considerable and unsung), unfortunately, also beget a high level of expectation, which in turn—when those expectations are not met—begets a greater rapidity and intensity of criticism.

I pointed out in my presentation to you and discussion on the 10th of October, that the bureaucratic and programmatic arrangements prevalent in the Community today are largely a legacy of the Cold War, and are really not conducive to what we need as we look ahead to the next century. That is why again I stress the importance of the work you are doing.

With regard to fundamental stress points between policy and customers in the Intelligence Community, one problem arises from the fact that intelligence is regarded as a free good or service to policymakers. Which, in my view, inherently breeds lack of discipline in the requirements process.

I totaled up near the end of my tenure at DIA and I got requests over four years that I was director, from some 200 different offices and officials in the Department for intelligence service. There was no coordination between and among them and no particular prioritization, because obviously those letters, requests, whatever form they took, were all written by people who were at the center of their own universe. And, I think that by extension is a problem

in the Community at large. And it is very difficult for the Intelligence Community to say no.

Similarly it is very difficult for policymakers ever to tell the Community authoritatively to stop doing something, because no one wants to take the responsibility for getting caught short. So all the requirements mousetraps that we build, and all the presidential directives and pronouncements on this, in the final analysis don't have a lot of utility because ultimately the Community is going to be held responsible for whatever information someone deems is needed.

Two additional stress points we have already talked about here already: One is the area of support to military operations. My commentary, not surprisingly, is less CIA centric than John's or Dick's. I think the important thing here is that we clean up our act jurisdictionally.

I have no problem at all and didn't have any problem for the length of time I was the Director of DIA and ex officio Director Military Intelligence with CIA participation in the process, as long as it is complementary, coordinated and supplementary to what the Department does.

Where we get into problems, I think, is when there is unconscious duplication and/or competition, since support to military operation is the major game in town these days. So I think it is not that we don't—and there have been great strides made, I might add, since Desert Storm in that regard, in operating as a team, as opposed to competitors. I think the issue here is delineating jurisdictions.

One other point I would mention briefly is in the area of support to law enforcement. My view here is the operative tenet should be "if it is foreign intelligence, the DCI should be in charge."

I don't believe we can afford either from a resource or a prerogative standpoint the notion of separate entities overseas collecting what amounts to foreign intelligence. Just some more commentary on support to military operations and our ability, the Community's ability to surge during crisis.

I think that something that has gone on in defense, largely unheralded, which has to do with the effective effort to define "lanes of the road" not only between and among the various production elements in the Department of Defense, which is where over three-quarters of the all source analysts lie in the National Foreign Intelligence Program, but that that should be by extension applied to the larger Community.

There has been a great deal of work done largely through the personal efforts of the respective directors of production in DIA and in CIA. Increasing joint publications and joint analytic partnership projects are under way, and that work needs to continue, I would recommend that the Committee be aware of that and endorse these efforts.

With respect to our ability to surge, I expressed when I was on active duty a concern I still have which has to do with our ability to support, if we ever had had them, two near simultaneous major regional conflicts. I was the Chief of Air Force Intelligence during Desert Storm, I know how thinly stretched we were then to support one major regional conflict.

The notion of having two conflicts, however near simultaneous they are, given the considerable resource reductions, (notably people) that we have undergone since Desert Storm, I think makes the notion of surging to support two such conflicts very, very problematic. Not only from a people standpoint, but also from the standpoint that we have in the Intelligence Community yet today too many single-copy "widgets," or systems.

Finally, one other point that I would highlight from my prepared testimony is the issue of the balance between collection and production. As I stated to you in my presentation on the 10th of October, I have great concern about the looming imbalance between the volumes and variety of raw data that the systems that we are investing in will be capable of gathering in the future, and the concomitant lack of ability to digest and analyze and move the resultant products to consumers.

And I think once again that stems from the inhibitions that are posed by the current structural and programmatic arrangements we have, which do not afford the visibility that is necessary to see the imbalances just between collection—the stovepipe collection disciplines—let alone their relationship with analysis and production.

I think at that point I will stop, and I am sure we are all available for questions.

[The statement of General Clapper follows:]

STATEMENT OF LT. GEN. JAMES R. CLAPPER, USAF, RET.

Mr. Chairman, distinguished members of the Committee, I'm pleased and honored once again to appear before you. I appreciate very much your invitation to discuss the critical issues you are addressing under the auspices of IC 21. I've already shared with the Committee my views on the need for a more radical approach to the composition of the intelligence community in terms of its organizational and operational structure, programming approach and leadership arrangements, on 10 October 1995. I will attempt not to repeat what I said then since that discussion is already a part of the Committee record. Before I turn to the other specific issues you asked me to address in your letter of 18 September 1995, I want to emphasize how crucial I feel the work of the Committee is, with respect to the future of the Intelligence Community. I say this because it is my firmly-held conviction that if there is to be meaningful, lasting reform of the community, it ultimately must be mandated from the outside, i.e. the Congress. Such fundamental reform will not--because it cannot--come from within.

The following responses are keyed to the questions you posed in your letter:

What do you see as the major strengths and weaknesses of the Intelligence Community?

The United States possesses the most capable, robust intelligence capability in the world. As long as the U.S. remains the major power, it must sustain this capability, as an instrumentality of our national security. Our major strengths lie in our superb core of professional people, and our technology. This tandem enables us to maintain a broad-gauged world-wide perspective, and, when required, to telescope down to a small, intense battlespace. The community has been resilient and nimble, in adapting to down-sizing ("right-sizing"?) and still responding to the many crises that have become a constant staple.

These very strengths can also be weaknesses. As an institution the community is not good at saying "No" to a consumer--any consumer. It continues to struggle to meet all the demands--both qualitative and quantitative--that are imposed upon it. Its own successes (they are considerable and mostly unsung) beget an even higher level of expectation, and greater rapidity and intensity of criticism when these expectations are not met. As I pointed out in my presentation on 10 October,

the bureaucratic and programmatic arrangements prevalent in the community today are not conducive to responding in the post - Cold War environment. Too many artificial obstacles thwart the seamless flow of intelligence. Another weakness we must work to correct is the decline in area/language/cultural expertise, particularly in a world in which the nation-state is becoming less prevalent as a political construct, and ethnic/cultural rivalries more so.

Does the DCI have the proper authorities regarding budgets, personnel, research and development, appointment of senior intelligence affairs (especially within DOD), system planning and procurement?

The question seems to presuppose status quo for the organization of the community, which I contend is the source of many of its ills. In my presentation on reforming the community, I suggest the creation of an infrastructure "Czar", who would, on behalf of the DCI, set and, most importantly enforce community standards across the whole range of personal, security, automation, communications, and facilities matters. The fundamental problem here is lack of consistency in the way all these resources are arrayed and managed, not so much who presides over them. In practice, assertive DCI's have exerted all the authority they wanted. I do think that no matter how the community is structured, it needs consistency and visibility in its R & D and acquisition processes, and in its personnel policies and practices. The magnitude of the reform required in these two areas would mandate legislation, and must accommodate both the DCI's equities, as well as the Secretary of Defense.

What are the major stress points between the senior policy customers and the intelligence community as a whole, and the DCI in particular? What steps would you suggest to address these stress points and weaknesses?

The fact that intelligence is essentially a " free" good or service to a policy-maker breeds lack of discipline in the requirements process. Consumers can and do make demands on the intelligence community without regard to the resource impacts. It is left to the intelligence leadership

to decide on priorities. Similarly, it is a rare day when any policy-maker will tell the DCI, unequivocally, to stop doing something. Despite all the rhetoric about the latest requirements mouse trap, the fact is, the community is never really relieved of the responsibility for knowing everything all the time and conveying it on demand at the speed of light. If the consumer community was required to "pay" for the intelligence products and services it routinely receives, there would be a lot more discipline in the whole process.

In a less quantitative context, the traditional "stress points" between intelligence consumer and producer continue; there is always the potential pressure to "spin" intelligence to help grind a particular policy axe, or for policy-makers to perform their own "analysis". Such friction is inherent in the process, and, to a certain extent, healthy. The intelligence community prefers not to focus on what it doesn't know ---- but it must always acknowledge uncertainty when it exists, and attempt to characterize that uncertainty.

I would briefly mention two additional "stress points". One is support to Military Operations. "Stress" in this area occurs because this seems to be the "big game in town" and everyone in intelligence wants to be involved. I would argue the need for sharper lines of jurisdiction as to who does what to and for whom in the realm of support to military operations. For the most part, DOD military intelligence should preside; other elements of the community should complement - - not compete with DOD. Another area of friction involves intelligence support to law enforcement. Here, the operative tenet should be that "if it's foreign intelligence, the DCI should be in charge".

WHAT CHANGES WOULD YOU RECOMMEND THE INTELLIGENCE COMMUNITY MAKE TO COPE WITH THE ISSUES THE U.S. IS LIKELY TO FACE IN THE 21st CENTURY?

I believe my presentation to the committee on 10 October responds to this question.

Your letter also solicited my views on intelligence support to military operations, the Intelligence Community's ability to "surge" during crisis, the requirements process, and the balance between collection and downstream processing of intelligence.

I believe some clearly defined "lanes of the road" should be established for the provision of intelligence support to military operations. For the most part, DOD should have the lead, under the aegis and oversight of the DCI, for such support. Intelligence support to military operations is invariably high volume, high intensity, high speed, and highly manpower intensive. Sometime ago, I expressed concern to the Department's leadership about our ability to "surge" particularly in a two major regional conflict (MRC) context. Given these characteristics of support to military operations, I see increasingly great difficulty (if not the impossibility) of supporting two MRC's of the magnitude of a DESERT STORM, in the face of the severe reductions in the intelligence community workforce. I served as the Air Force Assistant Chief of Staff, Intelligence during DESERT SHIELD/STORM, and I know how thinly stretched we were to support one MRC, as well as to tend at least minimally to our other obligations around the world. Now, the intelligence community --- to include its military components --- is much smaller than it was then, and will get even smaller. To suggest that we could provide the same level of support to two such MRC's --even if near simultaneous --is an exercise in unwarranted optimism. Moreover, there are many intelligence systems and equipment suites which are simply not in sufficient numbers to support two MRC's. I do not mean to imply that progress has not been made since DESERT STORM. On the contrary, great strides have been made in fixing deficiencies painfully evident during the war, notably in dissemination. The maturation of the Joint World-Wide Intelligence Communications System (JWICS), and its tactical analog, the Joint Deployable Intelligence Support System (JDISS) have revolutionized the way intelligence operations are conducted; they do serve to reduce the need for people.

I believe great strides have been made as well in rationalizing intelligence analysis and production within defense itself, and synchronizing defense intelligence and CIA. Through the leadership of the two respective Production Chiefs, many production efforts have been completed,

capitalizing on the complementary analytic resource of both Agencies. Similarly, the Department of Defense Intelligence Production Plan serves as a comprehensive road map for the Department's production activities; it establishes "lanes of the road" in which primary and secondary production responsibilities for the entire defense production family are stipulated. This is a major step forward, since over 75% of the all-source analysis and production resources in the national intelligence program reside in the Department of Defense. The next logical step--and there are test beds doing this already -- is to conduct intelligence analysis and production in a "virtual" environment, capitalizing further on the technology available to us. These innovations--both managerial and technological--need to be encouraged and institutionalized. Despite all this, I do not believe the resources are sufficient to meet the "surge" needs we will confront as a matter of routine.

With regard to the requirements process, I remain a skeptic about all the various requirement mechanisms I've seen built during my 32 years in intelligence. I've never seen a process that really focused the community on what is important and told it to stop doing what's not important; that just doesn't happen. No one in authority wants to take responsibility for relieving the intelligence community for monitoring any potential interest area, since that very area could suddenly emerge on the policy forefront and become a "hot" topic. We accordingly must maintain some cognizance, some basic knowledge over virtually every country in the world.

Finally, with respect to the balance between collection and production, as I stated on 10 October, I have great concern about the looming imbalance between the volumes and variety of raw data the system will be capable of gathering in the future and the ability of the community to digest, analyze, and move the resultant products to consumers. I think the fundamental reason for this imbalance (which is very difficult to quantify) is that the community programmatic structure does not lend itself to the requisite visibility which permits systematic comparisons and trades not only between and among the collection disciplines, but with production.

This concludes my formal statement. I again express my appreciation for being asked to appear and welcome your questions.



BIOGRAPHY DEFENSE INTELLIGENCE AGENCY

LIEUTENANT GENERAL JAMES R. CLAPPER, JR. UNITED STATES AIR FORCE

Lieutenant General James R. Clapper, Jr., was appointed the 10th Director of the Defense Intelligence Agency on 18 November 1991.

General Clapper was born 14 March 1941 in Fort Wayne, Indiana. In 1959, he graduated from the Nurnberg American High School, West Germany. He received a Bachelor of Science degree in Political Science from the University of Maryland in 1963 and a Master of Science degree in Political Science from St. Mary's University in 1970. The general completed Squadron Officer School in 1967, Air Command and Staff College in 1973, the Industrial College of the Armed Forces in 1974, Armed Forces Staff College as a distinguished graduate in 1975, Air War College in 1976, and the National War College in 1979. General Clapper completed the Harvard Program for Senior Executives in National and International Security and the Harvard Defense Policy Seminar in 1990.



The general enlisted in the U.S. Marine Corps Reserve in February 1961 and completed the junior course of Marine Corps Platoon Leader Training before transferring to complete the Air Force Reserve Officer Training Corps program. He graduated with distinction from the University of Maryland in 1963 and was commissioned in the U.S. Air Force. In March 1964, after completing the Signal Intelligence Officers Course at Goodfellow Air Force Base, Texas, he served as an analytic branch chief at the Air Force Special Communications Center, Kelly Air Force Base, Texas.

In December 1965, the general was assigned to the 2d Air Division (later the 7th Air Force), Tan Son Nhut Air Base, Republic of Vietnam, as a warning center watch officer and, later, as an air defense analyst.

After returning to the United States in December 1966, General Clapper was assigned as Aide to the Commander, Air Force Security Service, Kelly Air Force Base, Texas. From June 1970 to June 1971, he served as Commander of Detachment 3, 6994th Security Squadron, Nakhon Phanom Royal Thai Air Force Base, Thailand. While assigned to the 6994th, he flew 73 combat support missions over Laos and Cambodia in EC-47s. In June 1971, General Clapper was assigned to the National Security Agency, Fort George G. Meade, Maryland, as Military Assistant to the Director. In August 1973, the general transferred to Headquarters Air Force Systems Command, Andrews Air Force Base, Maryland, as Aide to the Commander and, later, as an intelligence staff officer. After graduating from the Armed Forces Staff College as distinguished graduate in February 1975, he served as Chief, Signal Intelligence Branch, U.S. Pacific Command, Camp H. M. Smith, Hawaii. In February 1980, he was assigned as Commander of the 6940th Electronic Security Wing, Fort George G. Meade, Maryland.

In April 1981, General Clapper was assigned as Director for Intelligence Plans and Systems, Office of the Assistant Chief of Staff for Intelligence, Air Force headquarters. From June 1984 to May 1985, he was

Commander of the Air Force Technical Applications Center, Patrick Air Force Base, Florida. Upon transfer to the Republic of Korea, he served as Assistant Chief of Staff for Intelligence, Republic of Korea and U.S. Combined Forces Command. In July 1987, General Clapper returned to Camp H. M. Smith, Hawaii as Director for Intelligence, Headquarters U.S. Pacific Command. In July 1989, he was assigned as Deputy Chief of Staff for Intelligence, Headquarters, Strategic Air Command, Offutt Air Force Base, Nebraska. In April 1990, the general was assigned as Assistant Chief of Staff, Intelligence, Headquarters, U.S. Air Force, Washington, DC. He assumed his present duties in November 1991.

General Clapper's military awards and decorations include the Defense Distinguished Service Medal, the Air Force Distinguished Service Medal, Defense Superior Service Medal, Legion of Merit with two Oak Leaf Clusters, Bronze Star Medal with one Oak Leaf Cluster, Defense Meritorious Service Medal, Meritorious Service Medal with one Oak Leaf Cluster, Air Medal with one Oak Leaf Cluster, Joint Service Commendation Medal, Air Force Commendation Medal, the Republic of Korea Order of National Security of Merit (Chonsu Medal), and the French Order of National Merit (Commander). He wears the Nonrated Aircrew Member, Space Operations, and Missile badges.

He was promoted to lieutenant general on 18 November 1991.

General Clapper is married to the former Susan Terry. They have two grown children, Jennifer and Andrew. Their permanent home of record is Satellite Beach, Florida.

The CHAIRMAN. Thank you very much, General Clapper, and Mr. Kerr, Mr. McMahon.

Let me lay out a couple of benchmarks here, so that you will have an understanding. I think I speak for the whole Committee when I say these things, so that you have an understanding where we are coming from as we get into the questions. That is how we can really get to some of the meat of the things we would like to talk about.

We, as I mentioned in my opening statement, we have no preconceived idea of where the Intelligence Community should be. We don't want to move boxes around just to move boxes. If there are changes made, we want those changes to be constructive in looking at the problems that exist in the Intelligence Community, and looking at the realities from the budget standpoint.

We also don't come from the assumption that some people, I think do, who are looking at the Intelligence Community's role in the future, starting saying, "Well, the Cold War is over, let's build down intelligence." We don't know if that is the case.

Personally, I have no more of a bias to build the Intelligence Community down than I do for building it up. Maybe we need to build it up. Just because the Cold War is over doesn't mean that it needs to go away.

What we want to try to do is to come up with a proposal that would allow us to have—continue to have the best possible intelligence in the world. There are, as you said, Mr. Kerr, some very important things going on. We do try to point that out occasionally.

Unfortunately, it is not the good things that always get in the paper. And, you know, if you are going to keep a secret, it is not a secret any longer if it gets out. So there are good things. I think people understand that there are.

Now, that doesn't make those problems that do occur any less significant. It doesn't make us any less serious about trying to root out why they happen and how we can prevent them in the future. I believe it was you, Mr. Kerr, who also talked about the need to keep people informed and to have a dialogue so that you don't begin looking at each problem when an issue arises.

One of the things—this is going to lead me to my first question here. We are looking at one issue probably more so than the Aspin-Brown Commission is, because I think they don't feel real comfortable doing so. Harold Brown said he didn't know how much he wanted to get into the oversight role and make recommendations, but I think we should.

There is a problem with historical knowledge, continuity on our Committee, if you will, because many times—nothing happens overnight, but with the constant rotation there is almost an instant gratification syndrome where you do something, you want to see the results tomorrow.

It may take years to see those results. Or problems that exist out there may have started years ago with a program that at the time seemed absolutely comprehensible and the thing we ought to do. But by the time a problem arises, there may be a whole new group of people, maybe nobody who was on the Committee when the program started. And therefore there is no understanding of what went on at the time.

And I think we need to look at that. I am even proposing we look at changing the rules and making the Committee permanent. Again, I am not wed to that, but I would like to look at that possibility. But that brings me to the DCI, the Director of National Intelligence, whatever we want to call him.

I am wondering, and I am not wed to this, but I want to find out why it may be wrong to consider a Director of National Intelligence. We asked our first group of six former DCIs what they thought about that idea, and I think to a man they all said "no."

But as we talked to them later in further discussions, they said no—we said why? They said, well, the DNI would have no resources. What if we give him the resources? Attitudes changed somewhat.

But the continuity is what I am wondering about. Should we have a Director of National Intelligence so we have someone doing what I call civilian intelligence? This is a very elementary definition of it, but it is everything that is not military collection.

And do we have a director of military intelligence for those needs? We have one person whose major responsibility is intelligence, and I call it a Louie Freeh appointment so that it is done for 10 years. The President can make a change if need be, but it would not happen automatically.

In this administration, we have seen two DCIs, and they have both been—they are both men I have great respect for. But each person who comes into an agency wants to make some substantive change. Sometimes it is forced and sometimes it is just needed.

But in doing that, sometimes it is very hard to get a change made and see it implemented before somebody else is there to make a change again. And in order to see some long-term development of programs or ideas or things that we ought to be doing, I am wondering if the person who is actually in charge should have a little longer tenure.

In law enforcement, it doesn't matter what the philosophy of the administration is or of the President is. You ought to go out and crack down with law enforcement. I think that justifies a FBI Director with a 10-year term.

In intelligence, the same goes, in my opinion. The product should be the same. It doesn't matter if there is a flaming liberal or an arch right-wing, knee-jerk conservative in the White House. The product of intelligence to the President should be the same.

The reaction to that information may be substantially different, depending upon who sits in the White House, he or she, but the philosophy of the administration shouldn't change what you are providing in terms of international intelligence. And that is where I come back to this idea of whether we need a Director of National Intelligence with a longer term to build some continuity, to build some historical knowledge?

Takeoff with that, if you would.

Mr. KERR. I would be glad to start on that, Mr. Chairman.

I understand your point, I understand the point of continuity and the value of that. And the ability to carry through on programs over more than just a limited period of time. Because bureaucracies are resistant to change, and a director can come in, think he is in charge and find that he says a lot of things but no one really does

anything below. That is true of any bureaucracy, they are pretty tough.

But I think the problem of having a term ends up to be the problem of not having access, of not being part of the team that is brought in by a President. And I think it is different than law enforcement.

But presidents bring with them different focus, they bring with them different Secretaries of State who have different emphasis, and quite honestly, intelligence must respond to that new direction. It is not the same. It is not that intelligence turns everything around with a new administration, but you do change the nature of your product and your focus. And I think that is important.

I also think it is very important to have someone from the outside in CIA. It is an organization that tends to be very insular. It thinks it knows the answers. It has been around most issues before and it knows how to solve the problems. It needs someone to shake it up, I think that needs to be someone at the top.

I do believe the continuity should come, at the next level. I am a believer—not just because I was a DDCI, the deputy there, but because I think it is important, that the DDCI should be an intelligence professional.

I think we should think seriously about having someone out of the clandestine services as DDCI. The clandestine service is the group that gets you into trouble.

General CLAPPER. Sir, I might take perhaps a little different tack.

I have been an advocate for having a Director of National Intelligence. One, a personage who would be separate and distinct from an agency head. I say that, having in my last two jobs I had on active duty as Chief of Air Force Intelligence and DIA, served under seven DCIs who were either fully confirmed or were acting.

And in all cases, no matter how objective they walk in the door the first day of the job, over time unconsciously, unwittingly, there is a certain tendency to—and I say this again, I am not coming from a CIA concentric point of view, there is an understandable bias that creeps into decisions they make that I think in ways subtly and not so subtle favor the Agency.

I think it would be better to have someone who can preside over the Community, Solomon like, and look at it objectively, particularly when issues arise within the Agency which consume the DCI's time and energies, as we had with the Ames case. I think it is a regrettable but probably true commentary about this town, that one's influence derives not from knowledge or wisdom, but from how much money one controls. And I think that focus is regrettable and we need to get away from that.

I would argue that a DNI's authority, prestige, access, should derive from his knowledge, access to the President, and his wisdom, rather than how much money he controls. I think there should be a fixed tenure, some minimal qualifications, a la the FBI Director, more to protect a DNI or DCI against the changing political vicissitudes.

The CHAIRMAN. Thank you.

Nothing, no comment, demanded, Mr. McMahan, if you—but I just want to make sure everybody had a chance.

Mr. McMAHON. My observation with General Clapper is I accept the litany of his facts, but arrived at a different conclusion. I feel that the DNI is the DCI. That is, to me, they are one and the same.

And when it comes to the functions of CIA as a central organization trying to coordinate and collate all the information in the United States Government, you have to look upon that as a 24-hour a day job. And if the CIA doesn't have the clout of the DCI, he is always saying please.

And I have served under strong DCIs, strong because they had the ear of the President, or was perceived in Washington that he had the ear of the President. And I also served under weak DCIs who couldn't even get in the front door of the White House. And the Agency suffered dramatically in its ability to influence the Intelligence Community on what to do with a central Community thrust for the United States.

So I again reiterate, I am an advocate of a strong DCI. I think the DNI is superfluous to that function. If you had a DCI that can carry the day as far as being the spokesman for intelligence, all the rest will follow, provided he has the ear of the President.

Mr. KERR. Mr. Chairman, if I could add one more comment. And really it is kind of rebutting what Jim said. We have argued about this before.

But one of the things that I found very interesting—before I became the Deputy Director in CIA—when I was the DDI—I thought, that CIA often lost out in arguments because the DCI had to be ecumenical, because he had to step back and look at the Community. No one came forward from CIA and said, wait a minute, this organization should take the lead or be responsible in a particular activity.

The DCI felt—and sometimes I felt that way as the Deputy Director—like it was stepping out too far to defend CIA. As you can see, I changed my view now that I am no longer there.

And I think if you talk to senior CIA people in the budget process they feel they are not well-represented because their representative often is not the DCI or the DDCI. Right now it is the executive director. And that is too far down in the pecking order to have clout. So I think it is an interesting problem that they face.

The CHAIRMAN. We have at least two votes, it appears.

Mr. Coleman, would you like to start or would you like to just begin when we return?

Mr. COLEMAN. Well, I think I can get my questions out of the way prior to the time that we go. And if the Committee would like to go and come back, then we can handle it that way, Mr. Chairman. I thank you for yielding.

I guess some of us look at this also with a view toward its costs and where we are headed and we have to do that as you know every time we meet on the House and Senate side on this particular select Committee. I guess that we talked about merging functions oftentimes, and we don't really instigate that.

A lot of us, who actually have the votes to appropriate the dollars and to make the authorization, do so based upon the functions as described to us by the agencies, whether it is DIA, whether it is NSA, whether it is CIA, all of the above, and sometimes I don't think that tail is wagging the dog.

I think there is a certain sense among a number of my colleagues that I've seen over a number of years being on this Committee that we wonder about, as the General has put it before, I think bringing down the stovepipes, the collection stovepipes.

Can we merge these under a more central control? What are the implications of such a move?

What are the advantages and disadvantages of organizing the Intelligence Community according to stovepipes versus organizing it in other ways?

I would like to get some answers today and any in writing that you would prefer to submit would be much appreciated.

I see also a dramatic expansion in the number of intelligence centers tasked to cover specific issues. There is a good deal of interest in the area of narcotics. Are we doing enough from the centralized locations or not?

There is the proliferation issue, terrorism is, as many of you know, not necessarily new, but it certainly is of more concern today because we see its proliferation too. I am wondering whether or not the Intelligence Community should be going in the direction of tasking centers to do more or should we in fact look at another way of doing it? Do we add unnecessary complication to coordination and management in all of this?

I think there are a lot of questions to be answered. I know that what I have just asked would take us a good deal of time, and I will certainly submit these questions in writing, the chairman will, I know the staff will, and appreciate your thoughts on them. I think these are important to get some answers to from your perspective.

With that, I would let any of you address any of those subjects I raised.

Mr. McMAHON. Let me take that first, if I may, Mr. Coleman.

There is a two-edged sword to the establishment of centers. Every time you put a center here for this and a center there for that, and a center here, you are creating automatically a bureaucratic super-structure, where you are duplicating functions.

You have individual bosses, where often you had one person doing all of that. That is the downside of centers. And I think the Community is overlaid with middle managers who perform a minimum value-added function, but rather are there for the bureaucratic running of the organization.

By the same token, the centers do permit all agencies to play and to focus on that specific problem. And it permits the center to draw upon all the individual agencies in the Community through the people who are represented in the center.

And if I were to give a rating for the centers today, I would say there is far more good coming out of the centers than bad. And from that standpoint, although they look bureaucratic, they are probably addressing the issue the best way that the Intelligence Community can.

Mr. KERR. Just a comment, I agree with what John said. I think that the centers to some degree were set up because the DCI or others, sometimes it was pressure actually from the Congress or from some other user, said that there needs to be more focus and

more attention paid to this particular problem, whether it was narcotics or terrorism.

To a degree, it was a way to bring in the Community so it didn't look totally like CIA, even though it was usually housed in the CIA and often headed by CIA. So in some ways, it was a fiction to get around the problem of looking—of CIA looking like it was the Central Intelligence Agency, as opposed to just something else. And it became Community and became the DCI center. But it had the value of attracting people because they felt it was, quite honestly, the other organizations, for the most part, then turned around or often turned around and set up their own centers, or at least their own focus of activity. So it didn't solve totally the problem.

And they still rely on that large base of analysts out there to do the work. They end up managing the process and sometimes managing collection, but they don't do the work. So people contribute to the center, but they still end up having to do the work to support the center at the analytic level.

So I believe centers have, like John, I think they are important. I think all in all they have been a plus, but I think you have to be very careful.

You can kind of organize yourself out of existence by organizing yourself into centers. And they should have sunset rules, in my view. In other words, I think they should go away. And nothing ever goes away, no center has ever been abolished, to my knowledge, and probably never will be abolished. But they should be.

Mr. COLEMAN. General, if you don't mind, we have been advised that there are only five minutes left on the first vote and then we will have another five minute vote, and the rest of the Committee I am sure will be returning.

So at this time, I would just recess the Committee for about 10 or 15 minutes. We should be right back.

Thank you very much.

[Recess.]

The CHAIRMAN. I wasn't here for the previous question but, in order to keep moving on, I understood Mr. Coleman had asked a question. Had all of you been able to respond to that? General Clapper, did you have a response to that?

General CLAPPER. As I understood Mr. Coleman's question—actually, a two-pronged question. One had to do with soliciting commentary from us on collection stovepipes, and the other had to do with the centers, analytic centers, to address specific topics.

As you know, Mr. Chairman, I have been an advocate for not having collection stovepipes. I believe the Community is going the wrong way by its increasing proclivity to build collection "stovepipes" and the accompanying religious ideologies and languages that go with them, each competing for resources, each competing for the ears of the consumers, and the ears of Congress. I think increasingly that is dysfunctional; we would be better served to amalgamate the intelligence collection resources of the government under a single manager for purposes of orchestrating collection, making trades between and among the collection disciplines for a given collection problem, as well as doing a better job of relating the investment in collection resources to that which we devote to analysis and production.

I personally feel—and this is a conviction developed over a number of years—that this proclivity for building around collection, separate collection stovepipes bearing in mind what comes out of stovepipes, which oftentimes is smoke is not conducive to what we need in the future.

With respect to centers, actually, I would be an advocate for centers of analytic excellence, as long as that is the one place that is timely in charge of that given problem. I think the difficulty here is where we set up centers under the auspices of the DCI for a given problem, but there are still efforts devoted to the very same problem in other areas. The Department of Defense is guilty of that.

So I think the notion of having analytic centers under an executive agent who has authoritative control over the resources—that is the input it takes to run one of these operations and also the outputs—what is produced from it—and is held responsible for it and is seen and perceived both within the Community and by the consumer community as that is the place you go for that particular issue, is actually the way to go.

I think there are a few cases—but there should be conscious judgments made where there should be, depending on your point of view, duplication or I would call it competitive analysis. For those problems which involve threats to the very existence of the United States as a nation state—and that is a pretty short list these days—in those cases there should be competitive analysis.

The CHAIRMAN. Did the gentleman have another follow-up he was going to need to ask?

Mr. COLEMAN. No. I think the last part I caught, General. I appreciate that.

I think when you say sometimes what you get is smoke—I don't want to plagiarize Art Buchwald this morning, but I was reminded when you said that, I would defend a person's right to sometimes just smoke. Wasn't plagiarizing, I wasn't even close.

The point I am making is, even then, I think that is going to occur. A part of our problem of trying to say that you can set all this from the standpoint of you spend X amount of dollars, you get Y result, I think is some of the problem that we all have in this area. It is hard to describe in open or closed session. I think it is very difficult for us to describe how it is that you can get that kind of a result without having overlap. You didn't quite use that term. You were talking about competitive analysis. Occasionally, I think that that will occur, and I don't see any way for us to completely eliminate it. But I think you are right on target by saying, at least I think you are, of suggesting if we are going to do some new things, then having these centers actually assign specific tasks is probably a good thing.

Mr. Kerr.

Mr. KERR. If I could expand on some of the question, on some of the points that we have already made and relative to your specific one on centers, we should look seriously at why we are creating centers—every time we have a problem. We try to reorganize ourself out of the problem by creating another structure. That has made some sense in the past, because you brought experts and different discipline together and you got more out of the group than

you got out of them individually. But we are in an environment today, electronically, where it is not obvious to me that collaboration requires reorganization. I think we need to think about collaboration in a different way, electronically teaming, putting someone in charge. They don't all need to be in the same building or the same organization to collaborate.

General CLAPPER. I did not mean to imply—I agree with Dick. I did not mean to imply that having authoritative centers of excellence meant they needed to be physically collocated. The point I was trying to make, though, was there needs to be someone who is authoritatively in charge. The resources that they oversee can be spread all over the earth, but I think the key thing here is an authoritative executive agent for a given problem. And given the capabilities we have with technology today and our ability to operate in a virtual environment, that is the way to do it. Doesn't necessarily mean disruption or physical collocation.

Mr. COLEMAN. Well, I think this follow-on question is related, for example, specifically the issue of narcotics, you said someone should be in charge of it. There is a lot of us who think we are still lacking that. I would only suggest I think there are lots of other things we can think about as we go through the process. Here we are talking about the consumers of the product, that we ask different organizations in the Intelligence Community to provide us.

General CLAPPER. Well, Mr. Coleman, I think you cite exactly the arch example of where such an arrangement would be more efficient and more productive. And, again, the number of elements within the Intelligence Community that are doing intelligence in support of the counternarcotics campaign, as well as the elements within the law enforcement community in that total arena, are not, in my view, as well postured as they might be.

Mr. COLEMAN. Some of the lines are not so clear, I agree. I thank the Chairman for his indulgence, for the time. Thank you.

The CHAIRMAN. On that similarly—a similar subject, one of the things we want to try to ensure is that as the technology and the ability to collect becomes even better, that we don't collect ourselves out of business. I mean, there has got to be an analysis of that collection and then obviously it has to be put into use. And how we structure the analysis is going to be critical.

How wrong would it be to have an office of collection whose job it is just to collect? And, basically, it would be tasked by someone to use the resources available to it for whatever type of information someone needed. In the areas where we could have competitive analysis, I think it is good. Sometimes budget constraints dictate that more than anything else. But after the—after a basic raw product is collected, then the analysis is done by the group that requested the information, because their needs may differ from some other group that might need the same information but is looking for something different.

What if we had a collection agency—as we would say down in the part of the country I come from, it wouldn't have a "dog in the hunt." All it does is collect. They don't have any—they don't care how it turns out, they don't care what the information is wanted for, but they go collect it and then they turn it over to the customers for their own analysis of it.

Mr. KERR. John, you want to take that?

Mr. McMAHON. Mr. Chairman, if you go back to the early 1960s, we, in essence, had an office of collection that was known as CIA. Because you had the heavy HUMINT side of the house and you had the airplane reconnaissance, the U-2 and the SR-71 run out of CIA, and you had the first satellite program run out of CIA. I say CIA—admitting that the Air Force played a heavy role, but they were integrated into those projects at CIA.

Then, later on, NSA got on its feet and really started providing SIGINT, and it was deemed that we ought to have an office of reconnaissance to tie together all the services, reconnaissance activities with that of CIA. And so the NRO was created, and that kind of moved then out of CIA. NSA was already out of it.

The biggest problem that the DCI had in that context was not running the collection aspects of it but trying to make sure that the collection systems addressed requirements that were on the table and needed response; and to tie in the users into saying, yes, what I am going to get out of that collection system is what I want.

Over the years now I think that has matured where it has been fairly well perfected, though there is a lot of problems still associated with it. But we have come full circle from that office of collection to where now it is a whole Intelligence Community, and the DCI has to orchestrate not only the collection but also the requirements and then the analytical process associated with it. It is from that standpoint that I feel that we have perfected the structure, and what we have to do is make it work according to the mission that we have given it.

Mr. KERR. I think having a collection agency would be a terrible mistake. What you would do then, is create another group that has special interests, and their focus would not be neutral as you have described, but it would be another bureaucracy with a special mission.

In my experience, the people that did the best at collection were the combination of very smart analysts who understood their problem and their consumer and a very smart group of people who operated the collection systems.

The more deeply and the more substantively they are involved in the issue, the more likely they are to figure out what are the major gaps and, together with the people that run the programs, how to fill those gaps. And actually both DIA and CIA and other organizations have collection groups who help in that regard.

The best—the most substantive things I have seen in the recent years on collection have actually been done by the national intelligence officers. They got together analysts and collectors and tried to identify the gaps and the capabilities to fill those gaps and what needed to be done in analysis as well as collection. I think they actually did some of the smartest things on collection.

So I would argue against separating it. I think it needs to be integral to the process.

General CLAPPER. I would not disagree a bit with the notion of having a very close, very intimate relationship between the analyst community and collection. I don't mean to imply otherwise. What I am suggesting, though, is that is it tough on an analyst when the analyst has to learn three, now four, as we are on the brink of cre-

ating a national imagery and mapping agency, where this dialogue has to go on not once, not twice, not three times, but four times.

All I am suggesting is that there may be merit in the notion of a single collection "czar" or "czarina," if I may be politically correct here, to whom either the consumer of intelligence—policymaker, military commander, or whoever it is—and/or the analyst or analyst group who is trying to respond to those needs, can have "one-stop shopping." And for collection this also would serve I think the purpose of increasing accountability—as opposed to the competition that we are breeding now.

The CHAIRMAN. Well, that is the idea, in that, in the purest, unrestricted world, it would be great if everybody could do their own thing. I guess what is driving this for me somewhat is the process by which the budget works. How much duplication or competitive analysis can we afford and can we afford the luxury of having every—and this is quite an overstatement—of having everybody go out and do their own thing, go out and do their own collection, go out and do their own analysis, each independently. I don't think we can do that.

And as we are trying to come up with the absolute best that we possibly can to make sure that the needs are served, how do we—because we are going to be forced to rearrange that somewhat—how do we do that? We want to try to think through how to best make those changes that we have to make simply because we don't have the luxury of doing everything we would like to do to make sure we still end up with the best. And I think that is where I am coming from on it. I don't know, again, that that is a great idea, but the thought has crossed my mind.

Mr. KERR. One thought that relates to this issue is, again trying to look at things that have worked. One of the things that seem to me to have worked best have been committees like the joint—like JAEIC—the people that worked the nuclear weapons problem. I think it still functions today. But it was aggressive and active in bringing together the experts on weapons problems—nuclear weapons—examining the uncertainties and the data and identifying the gaps. They not only using the resources that existed but creating new resources, new collection resources.

But, again, I think the reason it worked is because the people that were the core of it were analysts. They weren't collectors. I am concerned as you go to, an imagery agency, it will be another group of people with another set of interests, separate from the analysts, who have their own view of the world.

Then you have an NSA. And NSA is great but, you know, it is not a good model. It is often a black hole for those who are trying to use it. Mike McConnell would kill me for saying that. But it is hard to understand from the outside what the priorities are, what the opportunities are, what the tradeoffs are. I think that is a problem that Jim was talking about—stovepipes.

The CHAIRMAN. Well, just on the imagery idea, that hasn't been sold yet either.

I would like to recognize Mr. Dicks for what comments or questions he might have. And, as I mentioned, he just has successfully shepherded through the Defense Subcommittee appropriations,

which is, of course, vital to us because it funds all of our programs. Mr. Dicks.

Mr. DICKS. Thank you, Mr. Chairman.

I regret not being here for your presentations, I have known all three of you over the years and want to compliment you on the good statements that you made here today.

Let me start with General Clapper. As I understand it, you had some—have had some very serious reservations about the ability of the Intelligence Community to support two MRCs of the magnitude of Desert Storm. Could you tell us about that and why you feel that way? As I understand it, there was an intelligence bottom-up review done, and you may not necessarily agree with some of the conclusions that they reached in this.

General CLAPPER. On the heels of the bottom-up review, that was actually commissioned when Mr. Aspin was still Secretary of Defense, and I think there was a panel headed by retired General “Shy” Meyer, former Army Chief of Staff that was looking at the ability of the Department to respond to two MRCs. I was one of a series of combat support agency directors, who was summoned to this group, and I made the commentary that I had great concern about our ability, from a military intelligence perspective, to support two near simultaneous major regional conflicts.

I was summoned to the “vice principal’s” office that very night, Assistant Secretary Paige, because it spread around the building, that I had made such a commentary. I told him what I’d said and he directed I write a paper, a “homework assignment,” so to speak, to send to Dr. Perry then Deputy Secretary of Defense, the next day. Basically, my theme was that having served as the Air Force Chief of Intelligence during Desert Shield/Desert Storm, I know how thinly stretched we were to support that single major regional conflict from strictly a resource standpoint.

Then to absorb a 17.5 percent reduction mandated by the Congress, in addition to the reductions that have been mandated administratively—the net result of which will mean about a 30 or 33 percent reduction in intelligence manpower, by the end of the century compared to what we had in 1990, I think the math would tell you that there is just no way to get there from here.

Moreover, the number of what I would call single——

Mr. DICKS. Are you talking about the entire Community?

General CLAPPER. Well, I am talking about the military Intelligence Community, which is where the brunt of the requirement for support to two MRCs falls. The problem is simply the numbers. I know what we got into in supporting the magnitude, volume and intensity of a 24-hour-a-day combat operation during Desert Storm. If you had two such conflicts of that magnitude, I just don’t think the resources are there.

From a systems standpoint——

Mr. DICKS. Which resource, human resources?

General CLAPPER. I am talking about people, the number of people it takes to support that level of combat. The intensity and volume that is required is very daunting when you are trying to do this 24 hours a day at all levels of command.

Moreover, from a systems standpoint, the number of deployable systems we have and our ability to deploy those to two theaters I

think will be severely strained. For example, the rivet joint fleet, the Air Force's major manned SIGINT collection platform, was totally consumed in Desert Storm. I don't believe the fleet has expanded since that time, so again I just cite that.

Mr. DICKS. I think it has actually been constricted.

General CLAPPER. Well, in any event, sir, I cite that as one example. I don't believe that were any—at the height of Desert Storm—rivet joint missions flown in the rest of the world, save for the theater. And I think there are other examples that could be pointed to in closed session where we have a similar problem. So that was the genesis of my concern about our ability to support two MRCs.

That then prompted an intelligence bottom-up review. And I am perhaps guilty of oversimplifying here, but I think the general conclusion of that study was that, yes, there are probably, in toto, sufficient resources around, if there were the ability to authoritatively move resources say from one theater to another, in the case of in a military context, to support two MRCs. That then I think gives rise to the whole issue of whether or not you have a director of military intelligence or not—itself a controversial issue.

Mr. COLEMAN. Will the gentleman yield for just one quick question relative to that?

Mr. DICKS. Sure, I yield.

Mr. COLEMAN. General, I am aware of your position and statements in that regard. I kept reading it with the perspective that perhaps your perspective as Air Force intelligence, understanding the rapidity with which things have to happen, just technologically in that branch of the service did you feel that some of those views that you expressed were held by the other services as well? I mean, this is the—

General CLAPPER. Oh, yes, sir.

Mr. COLEMAN [continuing]. Late 20th century, I suppose they are all faster.

General CLAPPER. Well, I was operating not only as chief of Air Force intelligence but was also a participant of the Military Intelligence Board, which was sort of the joint Board of Governors that came together under the leadership of the director of DIA, then General Soyster, to support the theater, that is, Central Command, who was actually prosecuting the war in the theater.

So I am aware that the other services were similarly strained. So I don't think that my commentary about the Air Force is unique.

Mr. COLEMAN. Secondly, after the one comment you made and understanding which session we are in here with respect to the bottom-up review and some of the assumptions that were made, one of the assumptions, I think that was inherent almost in that review was that everything works.

General CLAPPER. Yes, exactly.

Mr. COLEMAN. I used to have—I used to serve on this particular committee when I first came to Congress, and I remember the then Secretary of Defense under President Reagan had those books that would tell us about the threat.

Mr. DICKS. Weinberger.

Mr. COLEMAN. That is the gentleman. But the book was the threat. And, of course, what we had to assume was they had the

best and we had to prepare against it. But all of us, who served at all, understand that not everything worked 100 percent of the time. So I think that is something that we have to take into account when some of these reports are done. I respect your position on that. I just thought it was important to say.

I thank the gentleman for yielding.

Mr. DICKS. Why don't you finish about what happened with the intelligence bottom-up review? You know, I dealt with some rosy assumptions in other areas this administration made, particularly as it related to bombers. Were there some very rosy assumptions in the intelligence bottom-up review that was conducted by Mr. Deutch?

General CLAPPER. Well, one of my concerns with the original—with the original bottom-up review, that is the operational one, was that intelligence really wasn't considered in that, in that study. It was assumed to be there.

Mr. DICKS. Neither were bombers, by the way, so we share our little—

General CLAPPER. Now, in the case of the bottom-up review, there were—there were assumptions made; the primary one being, and the big argument, and this is kind of an endless thing, is the amount of forewarning we would have for one or both of the two contingencies, the two major regional conflicts. And the other, of course, is how much separation we would enjoy between the two, when their intensity would grow to such a point. This is a more germane issue with lift, for example, than it is intelligence. Intelligence doesn't have the luxury, I don't believe, because its intensity is going to be as great just before the conflict as during the conflict. So we don't have that cyclical wave that others might argue that lift, for example, and other supporting functions might have. This caused some of my concern with the way the two studies were done.

I did make known to then Under Secretary Deutch as well as Assistant Secretary Ted Warner my concerns about the original bottom-up review and why I felt strongly that intelligence itself could not be assumed to work perfectly and to be there in sufficient resources to support two conflicts of that magnitude.

Mr. DICKS. I personally have a problem with that notion of two major regional contingencies at the same time. Certainly it is possible, but I think that that was somewhat contrived.

General CLAPPER. Well, as a planning construct, as something to size against, I guess you can't fault it. The issue whether two would actually happen and those two, that is, Iraq and North Korea, that to me is an entirely different issue.

Mr. DICKS. Right.

Let me ask a question of Mr. Kerr and Mr. McMahon. There has been a lot made recently—there was an article this morning in The Washington Post—maybe it was yesterday. There has been a blur of days here; that more of the human intelligence activities may be conducted over at the Department of Defense and less at the Directorate of Operations. Mr. McMahon, you ran that directorate. Is that something you think is really happening? Could you give us your impressions on that?

Mr. KERR. Well, I personally believe that it is a mistake to have the DIA or the Defense deeply involved in clandestine operations for a variety of reasons. The exception is preparation of the battlefield and during military operations. That is quite a different issue. But on an ongoing basis against strategic targets or even lower targets, first of all, I think that the—it requires a tremendous infrastructure, it requires extraordinary good training, and the venture is filled with pitfalls, we can see in the problems that the Agency has, CIA, with issues of conducting illegal activities in a foreign country, providing the cover and the structure behind it to support operations.

I think, it is a mistake. The Secretary of Defense will end up spending more time on this subject, before this Committee than he wishes. I think it will breed a lot of problems.

And I understand the military believes it is not necessarily getting the kind of collection from human resources that it needs to support its military activities but the military has an insatiable appetite. There is no limit to where it will go to collect information.

There is a direct relationship between the size of the problem and the amount of information you needed. So if you are breaking and entering, you need everything. If you are dropping a bomb, you don't need all that much. You need only the location. There is no end to the kind of detail that can be required by the military from clandestine agents.

So I think that is a very dangerous process. And, I think it is a mistake. I think the military opens itself up to a dangerous set of problems that involve findings and other activities that it is not subject to today.

Mr. DICKS. Mr. McMahon, I am going to let General Clapper at this, but I want to get the CIA side of this first.

Mr. McMAHON. I think I have a more benign attitude on this than my colleague, Dick Kerr. I believe the military has a right to have some capability—more than a right, it has a need to have a capability to collect intelligence that they feel are peculiar to their needs. If I were a military person going into combat, I would much rather rely on a military intelligence report than on what CIA got through some source, you never know what.

I also think that the military, by the very nature of their presence overseas, runs into an opportunity to collect information that is extremely valuable not only to the U.S. but also to the military in particular. So I would—I would leave that door open a bit for the military to collect clandestine information and in that aspect actually run it, if the situation suits it.

Now, we do find—like the attaches overseas are extremely helpful to us. They also are very helpful to our stations overseas. But there may be circumstances because of the personality relationships between the attache and whoever they might be in contact with that it is better not to turn it over to CIA but run it through that military arrangement. So I wouldn't be hard-nosed and say, no, never.

Mr. DICKS. Do you sense there is a big shift towards Defense because of the problems the Directorate of Operations has had?

Mr. McMAHON. Well, I think not because of the problems. It is because the Director of Operations hasn't answered the military's

mail. There is a lot of what I will call mundane requirements that are mundane when you put them up against what the DDO is chasing versus what the military needs. When they go over into a country, they want to know the loading capability of that bridge. And CIA isn't geared to do those things. They (CIA) are not worried about the composition of the sand or what a battlefield would look like. And, therefore, I think you have to have a military individual who is trained and experienced in the military needs to go get that information.

Mr. DICKS. General Clapper.

General CLAPPER. Well, as one of the midwives of the Defense HUMINT service, I guess, or midpersons, the argument here is somewhat like an argument about religion. There is no right answer. But the argument that the Defense Department would mount is that it needs—particularly in a combat situation, not so much in peacetime but in combat—it needs all the “arrows in the quiver,” so to speak, so that the array of HUMINT resources and tools and techniques should be available to and organic to the Department of Defense, for the very reasons that John outlined, that there are unique military needs that can be best fulfilled, best understood by the military.

And this is not to say that HUMINT as practiced in the Department of Defense would in any way be autonomous or independent or uncoordinated with that of the Agency. On the contrary, this new arrangement that the Department has embarked on has in it features which are designed to ensure a close, intimate relationship with the Agency through approval mechanisms, coordination mechanisms and, as well as the officers from the Agency who are embedded in Defense to ensure that this coordination takes place.

There is absolutely no question about who is in charge of HUMINT in the United States Government. That authority resides in the Agency.

Now the early discussions that I participated in when we were embarking on the consolidation of HUMINT within Defense, I raised this very issue with seniors in the Agency. I said, if you don't agree and you don't support the need for clandestine capability in the Department, tell me now and let's don't have this argument two or three years later.

I was assured by seniors who were then in the Agency that, oh, no, the Department of Defense should have its own organic capability for the reasons that John McMahon outlined, but always, always under the strict oversight of the Agency and the management mechanisms that are resident in the Agency. Not only in the Agency here, but in the field as well.

Mr. DICKS. And you don't think that balance has changed?

General CLAPPER. No. I was mildly amused by the tone of the article this morning, because this is a case of “where you stand depends on where you sit.” There are those in the Department who are very concerned that it is going to make it easy now for the Agency to pluck off a single service in the Department. So, as I say, where you stand depends on where you sit.

The CHAIRMAN. The time is expired for this round.

I will recognize the gentleman from Florida.

Mr. MCCOLLUM. Thank you very much, Mr. Chairman.

General Clapper, I think in your testimony, and to some extent I heard others say some things about it, there is a concern raised about law enforcement having intelligence-gathering capacity overseas, and I know that the FBI has been intent upon putting officers overseas. Is—do you oppose or do you think it is a bad idea to have the FBI with officers overseas in these various locations around the world or is it just the intelligence gathering function that concerns you. Can you explain what you mean?

General CLAPPER. I think our last conversation is germane. I think in the overseas locales, there needs to be someone who is clearly in charge and clearly accountable for all foreign intelligence activities in that country and that should be the Chief of Station.

What I would suggest here is a relationship that is analogous to the way attaches operate; they are under the oversight and cognizance of, really, the President's representative for conducting intelligence in that country. I think law enforcement or anyone else who engages in foreign intelligence collection should fall under that same supervisory umbrella of the DCI.

Mr. MCCOLLUM. So you don't have a problem with their gathering it. You have a problem with whom they are reporting to and who is supervising them?

General CLAPPER. And it needs to be totally visible to and, in my opinion, accountable to the DCI. If it is foreign intelligence, the DCI should be in charge.

Mr. MCCOLLUM. And that would be true whether it is DEA, which I know there is a relationship, or—

General CLAPPER. Whomever it is.

Mr. MCCOLLUM [continuing]. Whomever it is. Is that consistent, Mr. Kerr and Mr. McMahon, with your thoughts? Do you agree with General Clapper on that?

Mr. KERR. I agree with how he expressed the problem. I think the devil is in the detail.

I would draw the distinction between collecting information and liaison and running clandestine operations. And I think there is a very neat line here. I think it very important for the FBI, on issues involving international crime, to deal with the counterpart organizations, to have people overseas. But when you begin to run operations independently, I think that is a very real problem.

Close control and scrutiny by the station chief, sounds good. I think that is a practical way to do some of it. But given the scale that we are talking about in the Defense involvement and also the scale and the nature of the activities of the FBI, I think that is going to be very hard for a Chief of Station to keep his hands around the problem.

Mr. MCCOLLUM. Well, but we all talk in the terms of clandestine operations, and we have certain thought patterns in our mind. When you think of the FBI doing clandestine operations overseas, what do you mean? I don't mean to disclose any secrets, but I mean what categories of things?

Mr. KERR. I would say recruiting an agent, recruiting a person as a controlled agent, as an informant. I mean, that is what I consider to be a clandestine operation. It is not a liaison activity with a counterpart or getting information from someone you deal with

on a regular basis. It is an arrangement that is not recognized by the local government.

Mr. MCCOLLUM. And what they are presumably trying to do now is to get into the Russian Mafia, find out what they are doing, get into the terrorism world and find out what they are doing, and there is, obviously, an overlap of concern. There is the national security concern, and there is the law enforcement concern.

Mr. KERR. And in counterintelligence, that is the obvious problem, the problem of counterintelligence, who is responsible in the counterintelligence area overseas. My impression is that that distinction is rather blurred now.

At one time—and John is more expert at this than I am, I am sure. At one time I thought there was a rather neat distinction. CIA did counterintelligence overseas, the FBI did counterintelligence in this country, and the line was rather neatly drawn. I think that line has gotten very blurred, and the FBI has been very aggressive in this area.

Mr. MCCOLLUM. Mr. McMahon, do you have any comment on this?

Mr. MCMAHON. I think it is a train wreck about to happen. There is no easy solution. The Bureau certainly has a right and a need to have what I will call hot pursuit overseas. They also have a responsibility in protecting our Nation and our citizens to do whatever they can to preempt criminal behavior, whether it is terrorism or narcotics or what have you.

So I think they have a need to do law enforcement intelligence gathering. I worry if they tried to go in and elevate it to what I will call national intelligence, but you often cannot draw a distinction.

The very fact that you raised this question suggests that this Committee does have to sort that one out, and I am not sure that we, sitting at this table, have had the experience to deal with it. I do know that, given the nice distinction, the line that Mr. Kerr spoke about, of take the shoreline and everything in the water and on the other side is CIA and everything within the shoreline is FBI counterintelligence, and even that clear distinction did not provide simple guidelines that made it work well. In fact, if you look at the history of the relationship with the Agency and the FBI, it is not the description of bureaucratic ground rules that the Agency follow.

Mr. MCCOLLUM. Well, I wear two hats, being the Chairman of the Crime Subcommittee overseeing the FBI and the DEA and being a member of this Committee. So I am, obviously, very concerned from both standpoints, along with Chairman Combest. So I really appreciate your input into it.

Let me——

Mr. MCMAHON. I don't think I can give you an easy answer on that, Mr. McCollum. I do know that the Bureau often will be dealing with a source here who then goes overseas. Under our ground rules, the Bureau is to turn that source over to CIA. But the source is a criminal source, and you don't want CIA in that. So I think the Committee is going to have to develop ground rules which permit the FBI to do what they ought to do overseas, without stepping all over the CIA prerogatives and vice versa.

Mr. MCCOLLUM. Well, this brings me back to the last set of questions here, the last thought, just to come back and hook this around to the question of Defense.

I think I am hearing a discussion about dual tracking. Basically, the CIA needs to have its agents and its human intelligence capacity and its operations but there are reasons why other entities within the government need to be able to do this as well. There is concern, though, on how do you do this without stomping all over each other and having one big mess. And I am not sure you all have given any of us the solution or that we have it, but we are all groping for it.

I see people shaking their heads. It is essentially correct what I am saying, I gather.

General Clapper, you want to comment on that?

General CLAPPER. Well, I am not suggesting that necessarily that the Agency should take over the function once it goes offshore. What I am advocating, though, is that what is conducted offshore is visible to and is coordinated with—

Mr. MCCOLLUM. The DCI.

General CLAPPER [continuing]. The DCI, in the same analogous way that the activities of attaches are.

I think there are some useful management constructs that could be applied here. In the same way that the DCI oversees the activities of a Department of Defense entity in an embassy, that same—those same principles could be applied to the entire law enforcement community as well.

Mr. MCCOLLUM. Let me ask one last provocative question. There are those who would suggest that while we cannot really merge all the CIA activities with the Defense activities for the reasons you all have described today that instead, to get more accountability, we could place the CIA entirely under the Secretary of Defense and not integrated necessarily with the Army, the Air Force, the Navy or even the Joint Chiefs but rather as a separate entity but under his control. What do you say to that? Mr. Kerr, you want to react?

Mr. KERR. Well, I think it is a horrible idea, to put it bluntly. CIA does not have to defend a policy or be an advocate for a policy. It does not get caught up in that departmental process.

I think that is its value. I think it is very important to have a group that is independent and that the President can call on independently for a judgment that affects the other departments.

Actually, I think you are dealing here with perhaps one of the more important issues of intelligence, and that is do you believe or do we collectively believe that it is important to have a group that has an independent basis for its judgment and an independent reporting chain. And if that is true, what is the nature of that independence?

I personally believe that it should—CIA should be in a position to assess how well a military operation is going. Now military hates that, for good reason. And the national security advisor often doesn't like that, because it puts the executive in the center of a conflict on its own policy. But I think it is very important to be able to have an independent judgment.

Mr. MCCOLLUM. And you don't think that they could do that under the Secretary of Defense, independent of the Joint Chiefs of

Staff or the military departments that are there, if the mission was redefined?

Mr. KERR. Well, I give Jim Clapper a lot of credit, but a Four Star and a Two Star are different.

Mr. MCCOLLUM. I am not arguing in favor of this, by the way.

Mr. KERR. No, I mean in the sense that it is very hard as a subordinate officer not to have a lot of pressure put on you, and your mission is rather different. You are involved in a different set of activities. It is not disingenuous or it is not dishonesty, I don't believe that for a moment, in terms of affecting policy. But, it would be like having General Motors assess their own cars in the reporting on the ranking of cars being produced and how safe they are.

Mr. MCCOLLUM. I don't want to take much more time, but I would like General Clapper to at least give us—see if he concurs in all of that.

General CLAPPER. I would be adamantly opposed—I think it would be very harmful to have a CIA, whatever form it takes, embedded in the Department of Defense for a lot of the reasons that Dick suggests. It is really a function of mission. There are other important intelligence missions besides military intelligence—

Mr. MCCOLLUM. Absolutely.

General CLAPPER [continuing]. That a country needs to have discharged properly. So for that reason, if no other, apart from the issues of objectivity and the “fox guarding the chicken coop” syndrome and all that sort of thing, we need to have an independent agency that is responsive to the President.

Mr. MCCOLLUM. Unless Mr. McMahon wants to comment, I would yield back, Mr. Chairman. Thank you.

The CHAIRMAN. How would you recommend that we might make the budget process, from the congressional perspective, less cumbersome?

Mr. KERR. John.

Mr. MCMAHON. Mr. Chairman, I am a great advocate that the next budget that is fashioned for the Intelligence Community will have to reflect the will of Congress from this Committee, the other committee, and wherever the executive wants to go with for the Intelligence Community of the future; and, for the first time, I have advocated that the committees of Congress and the DCI and his representatives sit down and build the budget together. I think the staffs are quite prepared from experience and competence to deal with, say, the Intelligence Community staff in helping to build that budget; and then let the principals involved, the Members of Congress and the DCI, really go down and hone the list as they see what the needs are, and then let that be the budget which becomes the baseline for all future budgets.

In a downturn situation or rightsizing situation, the budget process is pure agony. We have had an Intelligence Community that has ballooned in the 1980s, and it has to come down some. I don't know whether it is the 30 percent that General Clapper has spoken of or something short of that.

But I think that there is a little fat in the Intelligence Community. I find that there has been an infusion of middle managers that really provide no function, and a great deal of that has been driven by the need to protect yourself when something goes wrong,

and so you have a lot of people that can say no in the organization, and no one can say yes. The pure functioning of trying to run an intelligence operation is so—is so imbued with bureaucracy, it would drive me nuts to have to live through it today.

So I think that the Intelligence Community has to change its way on how to do things, and it has to do it with the help and guidance of this Committee. But I think the oversight process should be very intimate in helping build that budget, for the first time around, and then let's revert to the old way of doing the budget process.

But it is too important to the American people today. They hear a lot of noise going on, particularly with the CIA, and they are going to have to have confidence built back into CIA. The best way to do that is for the DCI to have a very close dialogue with this Committee, saying here is how we are going to fashion intelligence and here is how we are going to go in the future.

The CHAIRMAN. Before we go on for other responses, let me see what it is in your suggestion that is different than what exists today. I think you described a process that generally is followed here in arriving at the budget.

Mr. MCMAHON. What happens today, Mr. Chairman, is the DCI forms the budget with the other Intelligence Community heads. They draw a line, given guidance from OMB, as to how much OMB will stand for in the intelligence budget. It then goes through the OMB process, and the Community argues with OMB as to what programs are necessary.

Then it goes to the President. The President signs it, and it comes right over that transom, right into Congress. And then Congress deals with it, sets up a series of dialogues, staff to staff, and then you have a budget hearing on it.

But the hearing takes on an adversarial relationship. That whole process with Congress is Congress trying to scrub it down or Congress critiquing that you don't have enough money here and you should cut back here. I think that if you did it all together you could save a lot of time and give the assurance that this budget is not the President's budget, it is not John Deutch's budget, it is what the United States has decided its intelligence budget ought to be.

The CHAIRMAN. Okay.

Mr. KERR. Mr. Combest, I guess my first response is that it is not obvious to me that the budget is too big. I am not sure 10 or 15 percent of the Defense budget is too much money to spend on intelligence. I think some of the money is in the wrong place; sometimes at the wrong priorities are wrong and, the money could be spent better. But I wouldn't assume that that total amount is too large, given the nature of the problems we have. I think it is very hard to come at that problem that way.

The major problem that I always had with the budget—and I could never figure out how anybody—up here could deal with it—is the budget made no sense. The budget had no relation to the priorities or to major problems or major gaps. It is organized along some God-only-knows-how lines, but it has no structure that is relevant to the priorities.

So if you say this is a very important subject and then you ask the question, well, how much money are you spending on it, you will find that a very important subject gets no money to speak of, and is getting no new money. So you say, well, I thought it was important. Well, the budget is not arranged in a way that allows you insight into priorities.

It seems to me that a very useful change would be to force the Intelligence Community to describe its priorities and the relative effort against those priorities and to have then some ability to say what difference would it make if more or less money were made available. What impact would it have.

But I don't think you can do that today. I think it is all just a mess and it is of our fault. I don't know who tells us how to do the budget, but OMB gives you a format, and you follow it, and it is incomprehensible.

Mr. DICKS. We thought we were the only ones.

General CLAPPER. Sir, as I understand your question, what you were asking for are suggestions on how to rationalize the budgeting programing process and—in the context of the relationship and involvement and responsibilities of that the Congress. Is that—

The CHAIRMAN. Well, yes, from—there is a great deal of time spent on the process. Sometimes it gets very cumbersome as we work through it. Basically, by the time we get through it, it is time to start again. I guess what I would like to know is how you might recommend that there be changes in that process to make it work better.

General CLAPPER. I would suggest to you, sir, that the first order of business is to rationally structure the programmatic arrays within the National Foreign Intelligence Program. The current structure is a problem for the Community. It is certainly a problem for the Department.

What I mean by that is, currently, we have one program within the NFIP that is devoted to satellites. We have another that is devoted to an agency. We have another that is devoted to a collection discipline. We have another, the General Defense Intelligence Program, my old program, which is sort of the "NFIP's very own TIARA," sort of a miscellaneous collection of cats and dogs. So when it comes time to make meaningful trades and comparisons, you can't do it, because you are constantly faced with a challenge of comparing apples and oranges.

My suggestion, as I have discussed with you and the Committee, would be to completely rebuild the basic structure; and I would do it in a functional context of collection, production and infrastructure at three levels—the national level, Defense-wide, and at the tactical level—so that both horizontally and vertically all can see the same resources arrayed the same way so then you can see where trades need to be made and where investments are or ought to be.

So the first order of business for everybody involved, whether it is the Intelligence Community, the Department of Defense or the Congress, is to get a rational structure, programmatic structure, where you can see like things and make comparisons of similar things, apples to apples, oranges to oranges. Because, right now, we cannot do that because they are all structured differently. They

are a product of history, bureaucracy and technology. But there is no rational structure to the way the systems are.

There is probably a multitude of procedural fixes that could be made that would simplify the process, but I would suggest that the first order of business is to police up the structure.

I think it would be very useful as well to define more narrowly the oversight responsibilities in the Congress. It always struck me, whenever I would have to engage in a reprogramming action in the GDIP, that I would have to send not one, not two, not four, but eight committee chairmen a letter, exactly the same text, asking for permission to move \$250,000 from this program element over to this program element. It seems to me that we would have all been better served if there were fewer committees in the Congress that had jurisdiction over intelligence. I would suggest to you that if we were to rationalize the basic programmatic structure that that process as well could be simplified.

The CHAIRMAN. Well, I would just say to your last comment, then I want to come back to the process issue. I am, as I mentioned earlier, looking at making some recommendations about the whole Committee process and how it deals with intelligence, from the length of time spent, to whether the Committee should be permanent, to a number of other things in the jurisdictional area. It is very difficult to deal with that when you have two authorizing committees with overlapping jurisdiction. Then in addition to that, obviously, is the appropriations process, which becomes very, very difficult to work with. I think we need to streamline it. We need to put some—build some fences around the jurisdictional aspects of it.

General CLAPPER. If you could outlaw the “A not A” problem, it would be wonderful, too.

The CHAIRMAN. Well, actually from a Committee standpoint, I like that.

Mr. DICKS. I agree with you, General.

The CHAIRMAN. I am not on the Appropriations Committee as Mr. Dicks is. That is probably where that difference comes because we are unique in that—our Committee is unique in that. That way the authorizers always ensure there is a role to play with the appropriators and we always get along so greatly it has never been a problem.

Back on the budget process you were talking about, where you look at priorities and long-range plans. That is what we are here for, the whole idea of IC21. The complaints I have heard—this is not directed at anyone, is that the process over the years has been driven largely by Congress. If you sit down and say, Jim Clapper, give me, as director of the DIA, your five top priorities.

So you give them to me and your other 45 important things on the list of 50 we don't fund. They were not on the list of five.

General CLAPPER. And I will still be held responsible for the other 45.

The CHAIRMAN. Sure, and we might say, what do you think about this idea; and, would you like to pursue it?

If you are just sitting around bouncing ideas off each other, generally the response to that, the way you think of that is, what do I have to give up? Because always in the past it has been a give-up deal. It is not that this may be in addition to existing programs.

That, unfortunately, has been a lot of times driven by Congress. Congress has not looked at it from the standpoint of deciding what the priorities are, deciding what we ought to be doing in a long-term, long-range basis and going after it. It is a year-to-year thing. Many times the programs that take years to develop are the ones that suffer because they don't—we are just trying to get by this week. We are not real worried about the surviving two years from now.

So those are things I think we need to change to give us some longer range ability to plan. That is not unique to our Committee. That needs to be looked at from the entire procurement process that Congress has established, our government has established, and I think it needs to be looked at very carefully to make it much more responsive to changing technologies and good ideas or bad ideas. It is so antiquated and so archaic and so cumbersome, we need to really make changes in that overall. We can't respond as quickly as we need to.

Mr. KERR. As a senior manager—I am sure all the others would agree with me—one of the last things we wanted was someone to come down here and make very strong argument for a new area of resources because we knew what was going to happen, it would come out of something—the other things—without our having any control over the process. So you lost control of the process.

In many cases, we really wanted money in one area sometimes at the expense of something else. But the process is not designed to facilitate what you have described. It is not also not well designed to tell you or to tell the managers of the organization, how much money are we spending, for example, on narcotics, how much overall and how has it changed and what would new money or reduced money mean? We have a very difficult time figuring out what things cost by subject. We should be able to track that much better than we do.

General CLAPPER. One of the problems, if I may just add to what Dick just said, has to do with agreeing on a framework for measurement. Are we measuring inputs or outputs? Where we get into difficulty is trying to equate a given output, that is how much money are we devoting to narcotics or terrorism or whatever it is—when you look at an intelligence resource base that is fungible, that is, our intelligence capabilities are resources that can be used and are used for many purposes. Our satellites, obviously, are an example of that.

They are used to fill many, many needs and when we try on a binary basis to equate a given output, that is what the Community produces for a given intelligence problem, and try to track that back to collection resources that are fungible and can be used for many different problems, that is where we have difficulty. That I think gets to Dick's point.

One of the points, if I may, now that I am out in the great civilian world looking at government acquisition and procurement processes from a little different perspective than before, I could not agree with you more about the need for reform.

The CHAIRMAN. Mr. Dicks.

Mr. DICKS. Thank you, Mr. Chairman.

General Clapper, I wanted to ask you, I serve on the commission, looking at intelligence as well as here in the Committee, one of the subjects that has come up has been the DIA. I think you were a very strong leader of it when you were in charge and there seems to be some ongoing concern about what the services should do and what the DIA should do.

Could you enlighten me again on the distinction between the two?

General CLAPPER. I am very familiar with the concern and interest on the part of the commission and others. I think, first of all, there is somewhat of a misunderstanding that because you have military intelligence entities at various levels of command that, therefore, means there is inherently duplication, overlap or redundancy. That is not the case.

Intelligence is ultimately, in a military context, a function of command. So when you have an intelligence entity that serves a service headquarters, that is not the same as an intelligence entity at a joint intelligence center supporting a war-fighting unified command, which is not the same as functions performed by DIA.

What the military Intelligence Community has done over the last three or four years—and it is an effort that is continuing—is to rationalize the roles, the “lanes of the road” if you will, between and among what DIA does, what the services do, and what is done at the joint intelligence centers.

Mr. DICKS. Three distinct areas.

General CLAPPER. Three command levels.

Mr. DICKS. Command levels.

General CLAPPER. Yes, sir. The focus, the needs are all different but complementary. There has been a great effort made in the face of this concern and criticism to rationalize these relationships under what is called the Department of Defense Intelligence Production Program, to define in exhaustive detail who does what to whom at each of these levels, and to eliminate as much as possible the duplication and redundancy that, in the more luxurious resource days, was probably the case.

But I don't think that is true today.

I think as the department evolves into——

Mr. DICKS. Because all three areas are downsized.

General CLAPPER. Exactly so. The reason this was done is not because of altruism or it was a neat thing to do, it was because we were driven to it because of the resource reductions, so now each of the services has only one production element. When I came in as director in 1991, there were five. Now there is one per service.

General Powell commissioned a massive study to reallocate and reduce of resources at each of the joint intelligence centers at the unified commands; DIA has undergone a very painful reduction itself. So we were driven as a Community to rationalize and synchronize what goes on in each level.

I need to comment on something John McMahon said at the outset about the perceived redundancy between service production elements and DIA in the scientific and technical intelligence context. DIA is charged by law and DOD directive with overseeing intelligence support to the systems acquisition processes in each of the

services. So there is duplication and oversight there because we are charged with doing that.

Again, this is to help prevent the services—which they never do—from embellishing the threat, particularly when they are attempting to acquire a favored weapons system. So we have accounted for all those responsibilities in this attempt to rationalize the analysis and production resources that reside in the military Intelligence Community which, as I indicated in my testimony, constitutes roughly three-quarters of the all-source production capability in the entire Intelligence Community.

Mr. DICKS. Let me ask you, one of the subjects that has come up recently, obviously has been this disclosure that—can I get into this in open session? Excuse me.

The press accounts happen. Obviously, there was some concern and there has been major concern raised and Mr. Deutch has spoken on it and even had a statement on it, regarding the fact that there were some reports given to the Department of Defense from CIA in which maybe the CIA had reservations or doubts about the sources and that was not conveyed to the Department of Defense.

Do you think in your time—you were there at the major part of this last five or six years and in charge of it—did you see this as a problem or do you see this as a problem? How do you react to this?

General CLAPPER. No, sir, I don't. In fact I was in previous incarnations, during the early 1980s, on the Air Staff, which was much of the heyday of the flow of this particular data.

I think the thing that has to be remembered and to put in perspective is that if the process is done right, this data—as sensitive and neat as it was, was simply one data source. In all cases, it was melded into the other sources of intelligence to see whether or not it fit or not.

Now there may well have been cases where we got bad information from good sources or good information from bad sources and that is something you can spend endless hours analyzing. But I think at the end of the day, you will find that no decision that the Department made hinged specifically either in an operational, systems acquisition, or policy context was influenced in a negative way by a single stream, this single stream of information because it was always melded in with other data.

The anomalies that may have occurred over a period of time would have sorted out. But I think as I say, the bottom line, at the end of the day, no decision was made in any of those contexts based on any of this information which may have turned out to be bad.

Bear in mind we are not dealing with an exact science; this is an inexact art, and you remember the kind of people you are dealing with here, the people that will sell secrets; so once in awhile, the information that flows from those sources will be bad. But in the total context of things over the last 15 years, I don't think it had any negative impact.

Mr. DICKS. John.

Mr. MCMAHON. Mr. Dicks, I think the issue goes to the very core of an intelligence agency and I think it was a heinous act for the agency to put out any information that they suspected was tainted

without the appropriate caveats on it. I would like to look upon that as an aberration that would never happen again.

Mr. DICKS. How would—I mean, you were there. You ran the place. Why would somebody do that? What would be in someone's mind inside the CIA who says—is it because they want to protect sources?

Mr. MCMAHON. No. I think it was driven by rationalizing, well, it may or may not be bad and, chances are, it is okay.

I think the material involved was so highly compartmented that there wasn't enough visibility into questioning that, and I could see the key individual who let that information go out probably saying, well, chances are, this info is okay.

But I don't think there is any excuse for it whatsoever.

General CLAPPER. I think there is a big difference between someone intentionally flowing information known to be bad without in any way caveating it versus letting information flow which looked to be good, was assessed to be consistent, was assessed to be not inconsistent with the general flow of information coming from a source.

There is a big difference there, I think, between someone making a judgment with the best of intentions that, while there may be a question about this, in the overall context of what was flowing from this source on this particular issue, this seemed to be consistent.

So at the time, at the circumstance, at the time of the Cold War, given the time this information had, the great sensitivity and protecting sources and methods, I don't find what happened was out of line.

If, however, someone from the Agency or anyone else—I mean, this gets to the very core of the intelligence profession—was deliberately feeding known-to-be-bad information, and that is an egregious act—

Mr. DICKS. But this may have been a situation where it was controlled information, they wanted to create a perception and the information may have been—it is a feeding operation.

General CLAPPER. That is part of the game. And part of the challenge here is to discern or to perceive the nuances of when that may be happening. It is not as though we were not aware of it or that the possibility was not there. But, again, you have to consider these things in context and at the time. Now, of course, we have the benefit of 100 percent, 20/20 hindsight with Ames and all that but, again, we have to remember what the circumstance was at the time. I was on the receiving end of a lot of this stuff on the air staff.

Mr. DICKS. Let me ask you this: One thing that I worry about is, let's say—I know this would never happen—but let's say that a service got some information that was very favorable in terms of a weapons system that it is trying to convince the Deputy Secretary of Defense that they ought to go out and get.

Would there be instances where they might just glom onto this information and use it because it supports their preconceived aspiration?

General CLAPPER. Yes, sir. That is always a danger and that is exactly why I mentioned in my commentary about the checks and balances that exist, at least within the Department, to assure you

don't have one zealot who can advocate a position all the way to the top, that there are checks and balances on this both organizationally and bureaucratically as well as—again, I emphasize the importance of remembering putting this in an all-source context so that this information was melded with other information derived from technical sources. So it would be very hard to grind someone's programmatic axe based on a single data stream or single report.

Plus the fact that when it comes down to it, particularly with respect to weapons systems acquisition decisions, they are really made on an amalgam of data which has to do with industrial base considerations, how much money is available in the budget, production capacity, and all these other things. So intelligence considerations are but a part, albeit an important one, but they don't drive those decisions.

Mr. DICKS. But the timing could be influenced, right? In other words, if they are trying to sell us, they are going to have this capability.

General CLAPPER. Yes, sir. All those bad things could happen. But I will stand on my statement that I believe you will find at the end of the day, that no such bad decision or wrong decision was made based on some of this material that may not have turned out to be valid.

Mr. DICKS. Let me ask, Mr. McMahon, you mentioned in your statement you didn't think there ought to be a separate counterintelligence agency. Could you elaborate a little bit on that. Why you feel so strongly about that?

Mr. MCMAHON. The first thing a case officer ought to do when he goes through the preparation of recruitment is to assess the individual that he is interested in from an information standpoint, and also his susceptibility from a counterintelligence standpoint. He addresses him psychologically from a recruitment but also what environment is he in where it would be easy for him to be controlled or doubled.

So counterintelligence is very much a part of the—even the recruitment process. Then once he is recruited, you ought to have a daily assessment of his value, not only is the intelligence good, but what is the possibility that he has been turned. Where you don't have that as a daily diet, it is where you have the problem pop up and you end up with double agents.

You can't take counterintelligence out of the clandestine operation. It is as much a part of running it as all the other factors that go into making that operation work. To have that driven by someone else in another agency, in another organization, just can't work. It is just not in the cards.

So—

Mr. DICKS. You don't object to having the FBI come over and be involved?

Mr. MCMAHON. I think the FBI ought to send over a great deal of talent into CIA to help them not only assess their operations, but also to help them out when one of their staffers may get in trouble for whatever reason, and the Bureau has great experience and we ought to call upon it.

By bringing them over and making it a rotation tour, so the individual agent doesn't feel he is giving up his career in FBI, I think

it would be extremely useful. I would do it at all levels, not only high levels, but also at the different levels throughout the organization.

I certainly would think that at the least the Deputy Director of their counterintelligence program ought to come from the FBI. I would give that—that would give them the right kind of clout.

Mr. DICKS. Do you concur, Mr. Kerr?

Mr. KERR. Certainly.

Mr. DICKS. You were there.

Mr. KERR. Yes, although my strength is probably not counterintelligence, I wish it would have been.

I think what John described is very real. It seems to me that the process needs to be integral to the operation itself and—if it is not, if it is off-line and done outside, I think it will lose impact. I think the problem is that we have some sloppiness in that process and mistakes were made, but that is certainly not the rule.

Mr. DICKS. All the focus has been on the CIA but, General, you have got potential for problems like this at DOD as well.

General CLAPPER. Exactly. One of the features of the Defense Human Service that I insisted on was that the counterintelligence apparatus that would look at the veracity of the source would not be in the same organization or command chain as the people running the operation.

They would still report ultimately to me, but it is separate and apart from that, so there is no risk that the operator who is running this is going to co-opt the counterintelligence element that is also working for him. It doesn't necessarily have to be from outside the agency, I would submit, but it needs to be within the agency separately tethered and not under those who are championing the operation itself.

Mr. DICKS. Mr. Kerr, you mentioned you were there right at the very crucial time. Why was the whole investigation of Ames such a low profile thing. Is that the way it is normally done?

Mr. KERR. Well, of course, this—it is hard to describe what is normal in this kind of extraordinary circumstance, but I think part of it goes very fundamentally back to the culture of the organization. This is just speaking from my own personal point of view. My experience in the counterintelligence area was and is rather limited, and my exposure to it, when I was Deputy Director, was limited to a few briefings. That described the uncertainty about what had happened to agents in the mid-1980s.

And the time of these briefings—in the early 1989 time frame, there was very real uncertainty as to the cause, whether it was technical, whether it was trade craft, whether it was a connection of a whole series of events or someone from the inside.

From my perspective as Deputy Director—if you would have asked me in 1989 what did I think was the most likely source—I would have said, it grew out of the Howard case, technical problems, and a whole series of operational problems.

Part of that is the uncertainty about events, but I think you have to be realistic about it. I think you have to say, at least in my case, that there is also in that a reluctance to accept the fact that somebody inside the organization who had gone through all of those things that I had gone through and others had gone through really

would be a traitor. I think that that created a mind-set about the problem that probably had an impact over time and in some way created the problem of why it took so long.

I did not believe—of course, I left before Ames was found—but I did not believe that that was the likely outcome. I thought it was more likely a technical, trade craft, or other set of problems.

Now, you can argue that we were sitting there with blinders on or not asking the right set of questions, and I think there is some truth to that. I consider—I look at this from my own personal point of view, I think if I would have pursued the counterintelligence problem the way I pursued other problems that I pursued, I might have come up with some different answers and a different perspective. All I can say is, I didn't ask the right questions and that is—

Mr. DICKS. A lot has been made about accountability as you know.

Mr. KERR. Right.

Mr. DICKS. The whole question about the DCIs and the interaction between the Directorate of Operations and the top management leadership of the Agency.

Mr. KERR. Part of that grows out of an organization that grew up with people who put lots of responsibilities on individuals, they took a lot—they were given a lot of responsibility, they didn't quickly move to their superiors and ask them for help and they certainly didn't go outside their own organization to ask for help.

I think part of that is training, independence, some of it has a bit of arrogance attached to it. More than arrogance because it is what you think of your abilities. Some of it is the result of a closed society working on a very complicated and difficult problem.

You know, I can't account for other people's motives but, quite honestly, I didn't ask the right questions. Not that that would have necessarily made the difference but, you know, that is the fact.

Mr. DICKS. Should there have been more of a duty to report to the top management?

Mr. KERR. Sure. I think there is a reluctance, you know, it is like coming down to the Congress and asking for help, that doesn't make a lot of sense a lot of times. You get more help than you want. I think, that is the way managers look at their own supervisors.

I am not going to go up the chain, "I am going to solve this problem." There is some, arrogance there, but it is also a confidence about your own ability to make judgments. Some of these problems, and the blue stripe problem you referred to and the Ames problems, were problems that were so big the people didn't really work out the full implications, and I don't think they fully understood that they needed more than their own resources to solve these problems. They needed to talk to a lot of people inside and out and bring the problem to them.

And in this case, I think they worked the problem along very systematically by themselves without a lot of reference or help from others. That turned out to be a horrible mistake, a disastrous mistake. But in my view, neither of those problems are because people were stupid or because they did not or were not worrying the problem. It is because they felt they could solve it. They felt it was

within their competence, they felt they could move it along and they would pass it to others and to their superiors at the appropriate time. These problems were bigger than that.

That was a serious mistake. I think anybody involved in it has to admit it is a serious mistake. As I said in my statement, I believe there is responsibility. I grew up inside that culture. I had an impact on it. If I didn't, I spent 32 years in vain and I don't believe that. I had some influence on it. And I am responsible.

Whether I am directly responsible we can argue about, but there is no question that I have responsibility for an activity of that significance and all of the people in the organization have a responsibility about that.

Mr. DICKS. Thank you, Mr. Chairman.

The CHAIRMAN. I appreciate the gentleman's comments.

We call these wise men hearings, certainly you all qualify and you have all shown that today. I want to tell you, I appreciate very much your being here. We have pages of questions, every question prompts another question. If it would be agreeable with you, I would like to continue the dialogue, if we might, through the staff level and submit some questions and if you would, I know you are busy, any answers you can give us to those would be very helpful.

I would like to say one other thing to be sure the record is clear on the points Mr. Dicks brought up about the questions raised following the disclosure of the damage assessment on the Ames case.

The Ames case of course is something this Committee under another Chairman started, and unfortunately the matter continues. We had hoped it would be over. There have been some who have alleged that there were billions of dollars expended—no one on this Committee, I don't believe thinks that billions of dollars were wasted. I did not concur with that following the information we have, but this is an ongoing investigation. We are still looking into this. In fact, I have stated publicly, not as a Committee because not everyone agreed with it, but I have put out a statement that indicated there is nothing that has shown that to be the case so far.

But we are continuing to look—I just want to be sure because those sessions have been held in closed session, but in the open session in which we address the generalities of that subject, we don't leave it to appear that the conclusions that have been discussed have been necessarily finalized because we are continuing to look into it.

At some point, some day, hopefully we will be able to put out an unclassified final report version on it. But I want to be certain that the record shows that that is still very much an ongoing interest of this Committee.

I appreciate very much you all taking your time to do this and we look forward to visiting with you in the future.

The hearing is adjourned.

Mr. MCMAHON. Thank you, Mr. Chairman.

[Whereupon, at 4:00 p.m., the Committee was adjourned.]

IC21 HEARING: DCI JOHN DEUTCH

TUESDAY, DECEMBER 19, 1995

HOUSE OF REPRESENTATIVES,
PERMANENT SELECT COMMITTEE ON INTELLIGENCE,
Washington, DC.

The Committee met, pursuant to call, at 10:01 a.m., in room H-405, the Capitol, the Honorable Larry Combest (Chairman of the Committee) presiding.

Present: Representatives Combest, Lewis, Goss, Shuster, McCollum, Dicks, Coleman, Skaggs, and Pelosi.

Staff Present: Mark M. Lowenthal, Staff Director; Michael W. Sheehy, Minority Counsel; L. Christine Healey, Professional Staff Member; Calvin R. Humphrey, Professional Staff Member; Kenneth M. Kodama, Professional Staff Member; Mary Jane Maguire, Chief, Registry/Security; Timothy R. Sample, Professional Staff Member; Catherine D. Eberwein, Professional Staff Member; Kirk McConnell, Professional Staff Member; and Susan Ouellette, Professional Staff Member.

The CHAIRMAN. The hearing will come to order.

Mr. Director, as you know, we have made it a practice in hearings to swear in witnesses. If you would, please, stand and raise your right hand.

[Witness sworn].

The CHAIRMAN. Thank you.

We are very pleased to open the sixth hearing on IC21: The Intelligence Community in the 21st Century, and our final IC21 hearing for 1995. We opened the IC21 process with six former DCIs.

As this is our final hearing leading up to this Committee's recommendations on what type of Intelligence Community this Nation will need in the 21st century, it is fitting that we hear today from the current Director of Central Intelligence, Dr. John Deutch.

Thus far the Committee has explored many aspects of how the Intelligence Community works today and, more importantly, what challenges it will need to face in the future. We have held hearings with six former DCIs, former policymakers, government and industry experts on technologies, and former senior professionals from the Intelligence Community. These individuals shared their insights and ideas on many subject areas such as the authorities of the DCI, the relationship between the Intelligence Community and law enforcement agencies, Community personnel and budget issues, and the proper role of Congress in oversight, all with an eye toward preparing the Community for a future 10 to 15 years from now.

Our Committee staff has been engaged in researching a wide variety of topics that will be reflected in several staff studies. These will assist us in our deliberations. In this process, we have held numerous panel discussions and interviews with individuals representing intelligence collectors, producers, and consumers.

I would like to thank all those who have participated so far and look forward to meeting with those individuals that we have yet to hear from.

One key to IC21 has been involvement by those currently in the Intelligence Community and those who are no longer serving in that capacity, by military operators "in the trenches," by individuals in this and previous Administrations and, of course, by those engaged in other complementary efforts focused on preparing the Intelligence Community for the future—most notably, the Aspin/Brown Commission, Council on Foreign Relations and our colleagues in the Senate.

Our goal is to create a marketplace of ideas that result in a framework and strategy that will protect this country's national security far into the future.

A very important aspect of IC21 is that we have approached our task by looking at the needs of our Nation and consequently the needs of the Intelligence Community, as our primary focus. This is not a budget-driven exercise. The Intelligence Community has gone through a painful process of reductions over the past several years. Many of these reductions were clearly needed in order to begin the process of making the Community more responsive by trimming away some of the fat that naturally builds up with any bureaucracy. Some would argue, however, that we have cut too far and may have imperiled our ability to meet our intelligence needs.

Regardless of which side of the fence you are on on this issue, what is true is that our current planning and budgeting process for intelligence focuses on the immediate future, what I call instant gratification, at the expense of real long-term planning. That planning must start with an understanding of the needs.

We also add that IC21 is not a reorganizational exercise nor an attempt to reform the Intelligence Community. We are not interested in moving boxes around in order to put a Committee stamp on the Community. We do not believe that on the whole the Intelligence Community is broken. We have the finest Intelligence Community in the world that may need some adjustments in order to be able to meet the new challenges this country faces.

Unfortunately, those in the Community have been demoralized by a bombardment of criticism and, by continuing rhetoric calling for a bulldown of intelligence now that the Cold War is over.

Most of this flogging has occurred in the public domain, an area in which the Community is often prevented from engaging lest they jeopardize critical sources of information. On behalf of this Committee, I tell all of you in the Intelligence Community that although your efforts go without public acclamation, your diligence and professionalism are appreciated.

This Committee has not been reticent when it has felt the need to criticize, but we also understand the need to praise when it is warranted, and we thank you very much for your dedication.

We went into this process with no preconceived ideas as to where the Intelligence Community should be in terms of size, content and structure. We continue to have an open mind as we get to the end of our deliberations. There are a few areas, however, where we have some specific concerns regarding future operational capacities.

For example, investment in analytical resources has significantly lagged behind investment in collection resources, a trend that will probably need to be turned around if the Community is to meet the needs of the policymaker and the military.

Although the Community has spent many years declaring that it could not do everything, the needs of the future indicate that we may need at least some level of expertise in most, if not all, areas. This is especially important when considering the tendency of the Community to focus its resources on the top tier issues and then take into account that in most of the recent cases where troops were deployed and needed intelligence support, the countries were often in the lower tiers.

This does not necessarily mean that the full-time analytical corps and the Intelligence Community need to be substantially bigger. It does mean that we need to seriously consider avenues that allow us to "surge" resources, both with military and perhaps civilian reserves, to augment existing capabilities, adding a sense of portability to collection, analysis, and production assets.

Several factors related to our ability to capitalize on new and emerging technologies is another important issue. The fact is that a 5 to 7-year procurement cycle doesn't mesh with the 18-month development cycle that we see developing in most areas today. The result has been a tendency toward staying with systems that are comfortable, though stifling innovation.

Another issue is our ability to address budgets and requirements in a coordinated fashion that looks well beyond a relatively current snapshot in time. I know that you, Dr. Deutch, have begun to take steps to address this problem, and we will be interested in hearing how these steps transfer into the future Community.

Finally, I would like to point out that we specifically requested that today's hearing be conducted in an open format. We did this for two basic reasons.

First, we believe that the American public is generally supportive of the country's needs or for an effective Intelligence Community and therefore they need to hear the debate on the Community's future.

The second reason is that it is of critical importance that we rebuild a constituency for intelligence among the people, the administration, and our fellow Members of Congress.

Intelligence has historically been an easy throwaway capability. It has often been considered nice to have. However, the changes in our national security concerns and in our military doctrine and strategies are resulting in an era in which intelligence information will be a mainstay of our national security strategy. Therefore, we must build up a constituency so that we can assure that we have the proper resources when needed and the proper information when necessary.

Dr. Deutch, I thank you for taking the time to work with this Committee and to bring your views to us. We look forward to hav-

ing you address any of the issues I have raised as well as other issues related to our future Intelligence Community that you have been thinking about.

And prior to turning to the Ranking Member for any comments that he might have, I would like to say we welcome your wife, Mrs. Deutch—it is nice to have you here.

And as had been earlier indicated, at some point the Committee had anticipated going into closed session. The Secretary has a very important—or the Director has a very important function at shortly after noon. We will be ending the session by 12:25 to accommodate that time.

Therefore, given that it will take from 20 to 30 minutes to sweep the room following an open session, we just don't feel that will be enough time. We will do that at some point in the future in a closed session. And we appreciate your being here, Dr. Deutch.

I recognize Mr. Dicks.

Mr. DICKS. Thank you, Mr. Chairman. I want to welcome Dr. Deutch.

Today's hearing marks the end of the first phase of the Committee's IC21 effort. We have heard from five panels of witnesses, including former DCIs, intelligence customers, developers of emerging technology, and former high-ranking officials in intelligence agencies.

While a number of issues have been discussed, I do not believe these hearings in and of themselves have provided us a road map for further action. This is not surprising given the size, complexity, and compartmentation of the intelligence agencies, the changing priorities of U.S. national security policy, and the rapid evolution of information management technology.

It would have been unreasonable to expect a group of 17 witnesses in 5 half-day sessions to lay out the problems and challenges that currently face U.S. intelligence policymakers; that is, those problems and challenges that exist after the end of the Cold War, after the Ames scandal, and before the completion of the information technology revolution, while at the same time providing a prescription for a timely, effective, responsive, and affordable Intelligence Community in the future. I realize that the Committee staff is preparing a series of papers on reforming the Intelligence Community. We look forward to reviewing those papers next year. This is not to say that the problems should not be considered and responses to them suggested. Besides the Committee, other entities are at work in this area. I am a member of the Commission on Roles and Capabilities of the Intelligence Community, along with Porter Goss of our Committee. This commission has delved deeply into the question posed by the Congress in the commission's authorizing legislation.

The commission's diverse, capable membership, spared as it is from producing an intelligence authorization bill and investigating immediate crises, which must of necessity be the priority of the congressional oversight committees, has had the opportunity to conduct a focused and disciplined examination of the issues facing the U.S. Intelligence Community. I believe the final report of the Aspin/Brown Commission will reflect a consensus of opinion which

will be very helpful to the Congress and the DCI in the years to come.

Nevertheless, while I have been impressed with the commitment and care that has exemplified the commission's work to date, and while I believe much can be done by the oversight committees, I am very glad we have in place a Director of Central Intelligence with the inclination to tackle the challenges facing the Intelligence Community today.

Some might have expected a DCI confirmed in the spring of 1995 to have waited to take action until after the commission and the oversight committees and other groups looking at intelligence issues have finished their work. John Deutch, however, has chosen to be aggressive in implementing needed changes. He has already put in place many of the concepts long advocated by reform-minded observers of the intelligence agencies, having the DCI function as head of the entire Community, rather than devoting most of his attention to running the CIA, imposing new mission-driven budgeting disciplines, proposing mergers of certain intelligence agencies to capitalize on new digital technology, and giving high priority to the myriad of personnel issues facing the Community. I have been supportive of the DCI's efforts in these areas and look forward to hearing more about them today.

While all of these administrative actions are within the prerogative of the executive branch, it is appropriate for the Congress to review them through the hearing process. Indeed, I would expect that any proposal for major change made by the Committee would receive the same careful scrutiny in hearings next year as well.

Thank you, Mr. Chairman, for encouraging the Committee to focus on the needs of the Intelligence Community in the next century. I look forward to working with you on this matter in the next session.

The CHAIRMAN. Mr. Director, please proceed.

TESTIMONY OF HON. JOHN M. DEUTCH, DIRECTOR OF CENTRAL INTELLIGENCE, ACCOMPANIED BY KEITH HALL

Mr. DEUTCH. Thank you very much, Mr. Chairman, members of the Committee. I'm very happy to be here to contribute to what you, Mr. Chairman, have characterized as the marketplace of ideas for the Intelligence Community in the 21st century. I welcome the chance to discuss the future and lay out some broad principles that I hope you will consider in your deliberations.

I applaud these hearings because efforts like this are crucial for building support for a strong Intelligence Community in Congress and in the public at large. Let me begin, Mr. Chairman, by saying a few words about what I see the international context to be for the next 10 or 15 years. To do this, I want to make a few general points.

I believe it's important to begin with the international context that we perceive, because that is what determines the policy questions that we will face, which in turn is what should form the intelligence collection and analysis that we undertake. So beginning with the international context, I want to make a few points.

First, it is my judgment that ideologies and regimes inimical to democracy will continue to exist. Examples today are Iran, Iraq, and North Korea.

Second, in an increasingly interdependent world, issues of access to resources and markets will remain pressing for our policy-makers.

Third, ethnic and religious differences will continue to cause instability, and unfortunately we should anticipate that this will serve as a growing source of international terrorism.

Radical Islamic movements such as the Al-Gama'á al-Islamiya and Hizballah are current examples.

Fourth, chemical and biological weapons will continue to be a major threat. We see activities in some of the rogue states such as Libya, Iraq, and Iran.

Nuclear proliferation is also a matter which continues to be of major concern to the democracies of the world and the United States.

Sixth, transnational groups involved in terrorism, organized crime, and narcotics trafficking will continue to impact the life of U.S. citizens and need to be guarded against. We will need to continue to pay closest attention to developments in Russia and China, because these nations have the greatest military power for the foreseeable future.

We do not believe that there will be a towering Soviet-like conventional threat that is likely to emerge in the next decade, but, nevertheless, Russia and China remain great, great countries that need to be continually monitored and assessed.

And finally, Mr. Chairman, I would like to note that the Ames case should remind us all of the need to remain alert to counter-intelligence threats to all of our national security organizations.

For me, this broad set of background points sketches the kind of international challenge that our policymakers are going to face over the next decade. We must be in a position in the Intelligence Community to address these challenges by providing our best support with our human and intelligence resources, used as efficiently as possible, to support the policymakers.

Let me also say, after speaking about the international context, a word about the technological context, the kinds of technology developments that are taking place in the world that are likely to have a big impact on the business of intelligence.

First we should note that the business of intelligence is indeed information, and we are witnessing, as we all know, a technological information revolution which is having a tremendous impact and which we must adapt to in order to understand the best way of collecting and processing intelligence.

Let me just note that there is a massive multiplication in the rapidity and extent and the ways people do communicate, through data, through voice, through fax, and with multimedia communications. There's a continued explosion in the paths of this communication by radio, through satellites, by fiberoptic cable, and through the use increasingly of commercial encryption. Accordingly, what is happening in information is key to many of the most central efforts of the Intelligence Community.

Let me say that this information explosion is going to have a tremendous impact on warfare in the future. It's going to become increasingly important as a sphere of competition and conflict. For the offense, information offers the potential of decisive victory with greatly reduced casualties.

We in our country have a technological lead here, and a comparative advantage in assuring that our military commanders have dominant battlefield awareness, and that we use information technology as the foundation of our military superiority for the future.

However, the continuing reliance of both our military and our commercial sectors on information technologies also underlies the importance of defense, protecting our information systems from disruption and exploitation. This is a growing concern not just for the Armed Forces but for many civilian sectors in the United States, financial, commercial and our utilities.

For the Intelligence Community, this information revolution provides both challenges and opportunity. We also intend to use information technology much better to improve the interconnectivity of different parts of the Intelligence Community and to improve the timeliness and the quality of the analysis we produce.

There are other aspects of technology that are important to keep in mind. We must anticipate the continued spread throughout the world of advanced military technology. First world weapons will be available widely, manufactured both by our adversaries and by allies of the United States.

There will be a continued interest in many states in acquiring nuclear explosives capability, biological and chemical agents, and ballistic missiles and other means of the delivery of these systems. All of these are technical changes that we must anticipate as we provide for the intelligence needs of the future.

This underlies the international context, this technological context, on the assumptions of the mission of our agency. I begin by assuming that until policymakers decide otherwise, we will remain committed to being a global power, and thus we must build an intelligence service that has global reach and can provide valuable intelligence to policymakers on an array of issues as diverse and difficult as the ones I've just mentioned.

The intelligence mission for the future is to provide our senior leaders—the President, the Vice President, the Secretaries of State, Defense, and the Attorney General, and other policymakers in the executive branch, as well as our military commanders—the most objective and timely information, gathered from all sources, that will assist them in making their decisions.

As noted, Mr. Chairman, the President has put into place an interagency process that leads to Presidential guidance on the priorities for the Intelligence Community by both subject and by area that allows us to adapt to changing circumstances.

Mr. Chairman, let me next take a snapshot of how we will look, given both these international and technological realities.

First, the boundary between international and national threats has become blurred. Computer penetration and terrorism does not respect international boundaries. Second, it is more important than ever before that the different elements of the Intelligence Community work together on our foreign intelligence problem. There is a

real synergy between the different INTs, the different kinds of intelligence.

Accordingly, I believe that the Director of Central Intelligence must put a priority on his or her role as head of the Community. In the future, this will remain a community of organizations, perhaps a bit different from the arrangement that we have today, but still a community of different organizations with one organization still at the hub of the wheel, independent of the policy departments and with a hand in every INT. On that last point I am referring to the Central Intelligence Agency.

I also want to note the importance, Mr. Chairman, of maintaining expertise across a wide range of countries and issues that we will have to deal with in the future, and, as you have noted, we need to have the flexibility to concentrate our resources, both collection and analytic, on a country or an issue when it builds to crisis.

We must be more customer driven. We must better understand the needs of our customers and know how our abilities can serve their needs better. We must produce products that are relevant, timely, and objective, all source analysis tailored to meet the needs of policymakers.

While products will integrate all relevant information, our chief focus will still remain stealing secrets, relying on clandestine information. The principal business of the Intelligence Community is to provide the kind of information that cannot be gotten elsewhere.

I want to emphasize that we will produce our intelligence products through a joint process that uses interdisciplinary centers and partnerships throughout the Community to bring together collectors and analysts from all parts of that Community. Let me give you some examples.

The Balkan Task Force has been functioning for several years, since the prior administration, as a most successful model of how bringing together representatives from all different intelligence agencies—Department of State, Department of Defense, the military services, Central Intelligence Agency, the National Security Agency—into one group that can provide for the policymakers integrated analysis that is objective and timely. This has been a very successful part of our difficult, strained policy process in the whole Bosnian/Balkan issue. Intelligence has not been at fault here. This is really an excellent model of how intelligence has worked together through the Balkan Task Force to provide support to policymakers.

We have other important examples—the Community Counterterrorism Center, the Community Counternarcotics Center. We have representatives of several agencies, including the CIA, NSA, and the FBI, working together on common foreign intelligence problems.

Let me stress again, the production of joint products, products that are put together by all the different expertise in the Intelligence Community, will be of growing concern and importance in the future.

And we will continue to utilize the best available technical means to gather intelligence. This includes greater use of electronic communications throughout the Intelligence Community and between the Intelligence Community and the customer in order to as-

sure that we can make use of the technological revolution and information to provide more timely and accurate information to our customers.

And we will increasingly make use of open source and the very best thinking of public experts in order to provide the most effective context for the clandestine information that we collect.

And as I have mentioned before, Mr. Chairman, I believe it important that this country maintain a covert action capability that will provide policymakers with options between diplomacy and military action.

Let me say a word, Mr. Chairman, about how we are going to get to these different strengths that I just mentioned to you. It's a series of steps that I think are required.

First, we need greater public understanding and support for what our dedicated and talented people of the Intelligence Community, especially the clandestine service, are being asked to do. A great deal of hard work and management attention to assuring that we carry out our intelligence functions both efficiently and responsibly is under way. Everyone in the Intelligence Community now understands that we are accountable for our actions.

Mr. Chairman, I do not believe that legislation providing for broad new authorities or dramatic reorganization is required to assure the proper and effective functioning of our Intelligence Community in the future. The leadership of the Intelligence Community understands well the nature of the post-Cold War challenge that we face and what changes need to be implemented.

Let me comment on three or four matters which are of a more specific nature; first, Director of Central Intelligence authorities.

At present, I believe the Director of Central Intelligence has most of the authorities that he or she needs. I think there are a few changes that might be made at the margins which would better strengthen the Director of Central Intelligence to coordinate Community activities.

First, I believe that the Director of Central Intelligence should have a stronger role in the selection and evaluation of individuals who hold major intelligence organization leadership positions in the Community. These individuals should continue to be named by their agency head, but only with concurrence of the Director of Central Intelligence.

Second, it is critically important for the Intelligence Community to adopt an integrated approach to resource planning, programing, and budgeting. To build the Intelligence Community of the future, the Director of Central Intelligence will require a mechanism to analyze the budgets and present the programs on an interagency basis, directed towards and classified by the major intelligence missions that we should have under way. This is a very important and needed step that has to be taken to improve both the effectiveness and the efficiency of how we use resources.

A move to a mission-based program budgeting system will facilitate resource savings and trade-off analysis. It is critical to achieving greater economy. The mission-oriented multiyear process we are building today will allow the DCIs of the future to present budgets to Congress that more accurately reflect the needs of the entire Community.

Today the DCI's responsibility is to draw together and present a national foreign intelligence budget that includes the intelligence programs that are managed by the agencies that compose the Intelligence Community. The Director of Central Intelligence' responsibility for drawing the intelligence program, in my judgment, should be broadened to cover integrally related intelligence activities in the Department of Defense. For example, the Joint Military Intelligence Program and the so-called TIARA program—Tactical Intelligence And Related Activities.

Once the national foreign intelligence budget is approved by Congress, the Intelligence Community agencies should not be permitted to reprogram people or dollars from the National Foreign Intelligence Program without the approval of the Director of Central Intelligence.

Next, Mr. Chairman, let me say a word about structural changes in the Community. I do not intend at present to propose extensive new organizational changes for the Intelligence Community beyond the two proposals that have already been presented.

First, the Joint Space Management Board, now established by the Secretary of Defense and myself, to permit for the first time an integrated management of the acquisition of our military and our intelligence satellites. This is an important step forward, and it will lead to a cost savings in the long run.

Secondly, Mr. Chairman, as you know, Secretary Perry, General Shalikashvili, and I proposed to Congress that we can consolidate the way geolocational information is analyzed and distributed to both national and military users by establishment of the National Imagery and Mapping Agency. The motivation for this change is primarily to meet the military's need for dominant battlefield awareness and, as the Gulf War illustrated, the need for imagery to be distributed in a timely fashion to battlefield commanders.

The second motivation is to take advantage of the information processing advantages and digital processing advantages that permit us to collect mapping and imagery data at the same time and produce tailored products for users as subsequently needed.

Bill Perry and I agree—believe very strongly—that the National Imagery Agency will, over time, accomplish serving the objective of both military and national users at less resource cost. We hope to have the opportunity, Mr. Chairman, to present our reasoning for this proposed change to the Committee, and I want to stress again that we believe that this change will lead to better service for both national and military users.

Next, Mr. Chairman, I would like to make a remark about people, the people who compose the Intelligence Community. In the long run, the Intelligence Community of the 21st century will be built by the thousands of professionals who make up the Community, containing the skill mix from language proficiency to computer science, that this Nation needs.

We must strengthen the personnel system throughout the Intelligence Community with emphasis on recruiting, performance appraisal, assignment, promotion, and retirement.

I intend to bring forward to Congress initiatives which will need legislative action to make the Intelligence Community a professionally rewarding place for those Americans who dedicated their

lives to this difficult calling. The initiative will seek uniform flexibility in a personnel system and encourage mobility across the personnel system of the entire Intelligence Community.

Some of the features of this initiative that I am discussing with the leadership of the Intelligence Community at the present time, include the following: A greater emphasis on career development training. We must develop a learning process where education never stops throughout the life of our professionals.

Greater emphasis on performance management, where we will be seeking authority for pay banding as a compensation and position management tool.

We will also seek authority for adjustment in force based on performance ranking and needed skills.

I want to discuss with Congress the appropriateness of adopting a quality of life program that will improve over time the working conditions for our employees, especially in the CIA, for the employees and for their families.

Finally, Mr. Chairman, I am determined that the Intelligence Community include emphasis on diversity in its work force. It is important for our mission that we take advantage of the unique strength of the United States in its broad ethnic and cultural background of all of our citizens.

Mr. Chairman, since becoming Director of Central Intelligence, I have made it clear that support to law enforcement is one of the most important Cold War intelligence issues. Terrorism, crime, and narcotics are becoming increasingly international. The historical divisions between the Intelligence Community and the law enforcement community, and the unfortunate tradition of bureaucratic rivalry, are not appropriate for dealing with this increasingly serious international threat. As I have said on numerous occasions, good spies make bad cops, and I also believe that good cops make bad spies.

Accordingly, I believe the intelligence-gathering components of the United States Government's attack on these issues should be in the hands of the Intelligence Community, rather than through an expanded law enforcement presence overseas. I trust that the Intelligence Community 21 effort will consider if we should change the dividing line between the Intelligence Community and law enforcement responsibilities with respect to activities overseas.

Mr. Chairman, I've gone on very long in an effort to give you my best thoughts about the future of the Intelligence Community. Let me just conclude with a very few remarks.

We are in a time of transition. This is a period like the era after World War II where key decisions will be made that will shape the strength of the Intelligence Community for time, for years to come.

I believe that a strong Intelligence Community effort will lead to better decisions by our leaders. It will protect American interests and save American lives. It is evident the most difficult intelligence activity to manage is human intelligence—clandestinely collected intelligence by our men and women. Here the investments are of a different kind.

It takes years to develop access to leadership thinking in authoritarian countries. When the crisis comes, it is too late to recruit agents to tell us what another country's leaders are really thinking.

The level of commitment, courage, and ingenuity required of our Directorate of Operations Officers is remarkable, and they provide timely and precious information every day.

Mr. Chairman, I believe it's time to stop criticism of the past few years and to encourage this vital activity. I intend to do so. With the support of the President, the Congress, and the public, I believe that all of the men and women of today's Intelligence Community are up to the task of building the Intelligence Community of the future. We should all remember what Samuel Johnson said, "The future is purchased by the present." Thank you very much, Mr. Chairman.

The CHAIRMAN. I thank the gentleman.

I might mention to members a reminder that this is an open session. We had intended to go to a closed session at some point. We don't feel that time is going to allow that today. So, at some point, we will have a closed session, and I would encourage members that would have questions that would cross over that line to hold them. We will do more than one round.

Mr. Director, let me just make some general comments that will obviously, I think, work toward some of your interests and what you would like to see.

As we have tried to make clear throughout this process, we have no preconceived notions about how the final product should look. We have certainly no pride of authorship and are looking for input from all of the various groups I had mentioned in my opening statement and hopefully, from that, be able to come to some consensus about what the direction should be and whether or not it needs any legislative changes. We don't know at this point. Obviously if it does, it will fall to this Committee.

Secondly, I would mention the two things you had mentioned that you are proposing at this time. We have received your letters—yours, the Secretary of Defense, and the Chairman of the Joint Chiefs, in regards to those proposals. The Committee members have not looked into them at all, and, certainly in terms of any in-depth study at this point probably are not going to be in a position to discuss them. I would say that we will have extensive opportunities to discuss them.

We appreciate your willingness to bring them to the Committee, and at some point we will discuss both the pros and the cons.

As you know, there are a number of people who support the National Imagery and Mapping Agency, there are a number of people who are very concerned about it. We want to flush all of those issues out, and at that time I would encourage you to, in terms of the hearing process as we are looking at some of those proposed recommendations, for you to hit on some of the other areas you mentioned.

You said you feel that most of the authority is now in the hands of the DCI but that there are some areas, I believe you said, around the edges that needed some correction. I would encourage you to let us go more in depth in that, as we are looking at your proposals for the future of the Community.

I would also invite you, if you would, to share with us one of the things we are looking at that is a little unique, I think, to the non-congressional groups that have formed to look at the future of in-

telligence—that is the role of the oversight process, both in terms of its general oversight, its authorization, and its budget process.

Are there recommendations that you could make to us about proposed changes that would make it work more efficiently? We recognize that, as the DCI, you are spending a great deal of time in front of the Committee and with the Congress, and if we can do that in such a way that still allows us to have a very aggressive and interested oversight, and at the same time to free up some of your time or those who work directly and immediately for you, I think we would be very interested in looking at those changes, because we are interested in trying to make government work as efficiently as it can.

Let me pursue one area with you just a little bit, recognizing that getting greatly in depth in this would require a different session. But one of the interests I have—concerns I have had and expressed throughout the process—is that, given the different areas of intelligence programs that fall under TIARA, NFIP, or others, this Committee has a limited and very established authority to deal with just the Intelligence Community.

I have looked at this as this Committee, rightly or wrongly, is trying to establish an intelligence architecture for the future. It covers all aspects, and it should cover all aspects if we are looking at that, both to the, as I call, civilian side as well as the military side.

If we do our job correctly, we are not going to have a tremendous amount of redundancy. We can't afford it. You can't afford a lot of overlap. What we want the product to be is an intelligence architecture that is based on need.

There are some areas that we find end up competing with non-intelligence—intelligence areas that end up competing primarily in defense with nonintelligence areas, maybe weapons systems or things of that sort. It makes it difficult for us to develop this kind of a system that looks over the overall architecture, and if one of those legs is pulled out or yanked away, then we are going to have some kind of a gap—that we can't have that balance.

We want to look at, and I would appreciate any comments that you might be able to give now and certainly in the future, ways where we might make some reforms in oversight and in the congressional authorization process, certainly in areas of jurisdiction, where we might help to ease that problem. It hasn't been devastating in the past, but it has had some major impact; and in looking into the future, we are looking at funding an intelligence architecture, so that we don't end up losing some of these things to other programs.

I recognize your relationship, certainly from your background and where you have come, with the current leaders in the Defense Department, but that may not always be there. We would like to try to provide a system by which we prevented some of those problems and didn't just always rely on the personalities to make sure that we didn't have a problem there.

Mr. DEUTCH. Well, Mr. Chairman, let me make a couple of comments on what you've just said. The first is, the military is, by necessity and because of technological realities that I pointed to,

going to turn more and more to the use of intelligence integrated in their operation. Let me give you a concrete example.

We produced and purchased, I don't know what number, but I would bet close to 3,000 F-16 fighters, a superb fighter, for our military service. We have a successor fighter. We are not going to be able to, in the current world, produce that quantity. We're going to have to have a smaller number of fighters that are equipped with precision-guided munitions and have in their cockpit the timely intelligence which fuses signals, pictures, maps, GPS coordinates, to assure that they can carry out and not get shot down by others, so there's an information warfare aspect of it all, during their mission.

That's a challenge that the military is going to face. They are going to need intelligence more in an integrated way, and I believe that the competition between dollars for platforms and dollars for intelligence within the Department of Defense is a good one. That competition is what assures the American people that we are trading off defense dollars with intelligence dollars. Defense support is, after all, where the greatest expenses are made—the motivation for the most costly parts of the system—we are looking for an efficient balance between intelligence information and defense platforms. And we are going in that direction; the military understands that.

However, a necessary consequence of that is that you don't have satellites in one place and airplanes, air platforms, that collect intelligence in a separate place. You have to consider, as you pointed out, the architecture for providing all of that information at one time. That's what I am arguing for here when I say that the Director of Central Intelligence has a responsibility for making sure that the information is present, has to be able to look across the National Foreign Intelligence Program and the related programs, and I'm very much an advocate of that, and I was also an advocate of that when I was Deputy Secretary of Defense.

So I will continue to push that and continue to push for subsequent Directors of Central Intelligence to have more authority in that way.

Now I'm also aware that this creates—what's the word I am looking for?—opportunities in Congress for how they do oversight and the authorization committees. I don't have any comment about that. I leave that in your and your colleagues on the Senate side's able hands.

But the fact is, logic, economy, technological reality, force you to look at the intelligence part of support to military operations, with a greater breadth. It also says then trade intelligence off against platforms so we know we're getting an efficient outcome, which goes back to the need for assuring that we have a better program budgeting system.

The CHAIRMAN. Mr. Dicks.

Mr. DICKS. Mr. Director, going to that subject, and you are in a unique position because of your past history at Defense Department, but the need for a strong central Community planning, programming, and budgeting staff has been, I think, a problem with the DCI and his Community management role. Historically, the DCI has had weak Community management resources, especially as compared to those in the Office of the Secretary of Defense.

For example, the DCI has nothing comparable to the DOD program analysis and evaluation office, or the DOD comptroller organization. He has not had a large number of senior functional staff comparable to the string of assistant secretaries and under secretaries of defense, each with substantial organizations to provide oversight of and direction to the military services and defense agencies.

Do you think it is possible to achieve effective management of the NFIP without such resources? Do you believe it is realistic to think that the DCI could create such strong central management tools unilaterally, without the close participation of the Secretary of Defense?

Mr. DEUTCH. Well, first of all, Mr. Dicks, the conjunction of the words "weak" and "management" I don't like. I mean—but I quite agree that the DCI, because of the tension between the functional responsibility of the Director of Central Intelligence and the mission responsibility of the Secretary of Defense, that it is appropriate to characterize the DCI's authority as weak on this matter.

For myself, because of my unique background, it's not as much of a problem, but in terms of looking for the future, it's institutionally a problem. I think that the CMS management staff has to be strengthened.

Mr. DICKS. Is that it, right there?

Mr. DEUTCH. I wasn't going to—I was not going say that, Mr. Dicks, but significantly strengthened—let me put it there—in terms of the ability to carry out independent trade-off analysis, especially the big costly collection and distribution programs, and that's the part of the staff that must be strengthened. We don't need a lot of assistant secretaries, but we need a stronger and larger professional staff which will look at the NRO and a lot of other things.

I also think that the cooperation between the Defense Department analytic effort and our analytic effort should be increased. We've taken those steps this year. There's much closer cooperation between Keith Hall and his enterprise and John Hamre and his enterprise, and I think that's a step in the right direction.

Fundamentally what we have to hope for, in the long run, is that the provision of intelligence is going to become so important to the war fighter, and they will recognize this, that the shared decision-making responsibility of the Secretary of Defense and the Director of Central Intelligence does look at the mission rather than at the bureaucratic turf.

I think some of the past efforts to strengthen Central Intelligence Community management were more based on quarrels about authority as opposed to getting the job done. What is different today is the importance of this intelligence to joint military commanders, and I am hopeful about it.

What I cannot say to you is that I think the world would be a better place if the entire authority was with the Director of Central Intelligence. If the Director of Central Intelligence had complete authority for the program and its execution, I do not believe that we would have a better system than the one we have now, and the reason is, those intelligence activities in their execution must be in-

tegrated into the joint military command structure, and that's going to become more important, not less important.

Mr. DICKS. Well, if you look at the history, the DCI, I mean intelligence, the NFIP, the intelligence program has done very, very well. If you look at the growth in the 1980s compared to defense, intelligence in essence was protected.

I support your idea of having stronger management in order to make the priority decisions within intelligence. I would argue, even with all the bureaucracy and management at DOD, we still do not have the capability to make difficult priority decisions at the Department of Defense.

You may be in a better position if you don't have all the bureaucracy and the services to make trade-offs within the Intelligence Community between the various INTs.

I think the question I'm asking is, what do you need in terms of Community Management Staff to give you the ability to make those hard decisions of trading off from the NSA to the NRO?

Mr. DEUTCH. I believe I have the authority to do that, certainly within NFIP. I'm suggesting that that authority should be broadened to the related programs and Joint Military Intelligence Program and the Tactical Intelligence and Associated Programs, JMIP and TIARA, and we have to build and strengthen our analytic staff, and we are doing that.

Mr. DICKS. How would you characterize it now? Do you think you need a lot more personnel?

Mr. DEUTCH. We need——

Mr. DICKS [continuing]. In that area?

Mr. DEUTCH. A couple of dozen very experienced senior people in that area.

Mr. DICKS. How many do we have now?

Mr. DEUTCH. May I ask——

Mr. DICKS. Sure.

Mr. DEUTCH [continuing]. Keith Hall.

Mr. HALL. There's 80 personnel directly on the Community Management Staff. In addition to that, there are some detailees that come in from the agencies.

Mr. DEUTCH. His question is how many analysts—if I may——

Mr. DICKS. Yes, that is exactly right. I want to know what you need at the end of the day in order to make that kind of analytical trade-off.

Mr. DEUTCH. He needs 20 more, is my view, Mr. Chairman.

Mr. DICKS. Not a couple thousand?

Mr. DEUTCH. Sorry.

Mr. DICKS. You just said a couple thousand.

Mr. DEUTCH. Couple dozen.

Mr. DICKS. I am sorry, I misunderstood you. I was thinking, that's going to look quite robust. It is going to start looking more like the Defense Department.

Mr. Chairman, I had one additional question here. One of the reforms from the Goldwater-Nichols Act that has greatly benefited the DOD is giving the combatant commanders a stronger voice in resource allocation, both through the requirements process and through the so-called chairman's program assessments.

What importance would you attach to an analogous initiative in the Intelligence Community whereby the NIC and the combatant commanders, the latter through the Joint Chiefs of Staff, could provide a direct and strong role in intelligence resource allocation and planning?

Mr. DEUTCH. I believe that over time the CINCs are going to become the key to the demand side of the intelligence future. I think it's starting now.

Admiral Blair, who is our new Associate Director of Central Intelligence for Military Support, works directly with the CINCs, making them understand the importance of intelligence to their future force capability and force structure, and I think that the existing process works well. Intelligence should be and is one of the things they care a lot about.

So the chairman's force assessment of what a program does should pay attention to intelligence, and I think that the systems are in place to do just what you have in mind.

Mr. DICKS. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Lewis.

Mr. LEWIS. Thank you, Mr. Chairman.

Welcome, Mr. Director. It is pleasure to be with you. I have a series of questions. We may not be able get to them in the first round. It may be that some will take us to the edges of that which should be done in private session. So we will make that judgment as you choose to respond.

First and foremost, as you know, each of our Members serve on this Committee for a period of 6 years. Shortly after this Member arrived, America experienced the New York bombings, and suddenly all of us were aware of the prospect of domestic terrorism, the prospect of international terrorism within our own borders.

As we began to discuss that, many of our Members committed themselves to saying that in this 6-year term, we would at least like to lay the foundation to make sure that our Intelligence Community is prepared to the maximum degree possible to help America with that major challenge.

Not very long ago, there was an automatic assumption that the Oklahoma City bombing was—had a source that was international, and quickly we learned that there was another threat as well. I would be very interested in your outlining for the Committee your thinking on this subject area, after this short term as Director; how the Community should be changed, how it can better work together, what kinds of impacts these challenges will have upon the budget of the Community as well?

Mr. DEUTCH. Thank you very much, Mr. Lewis.

Let me begin by saying I regret that I have come to the conclusion that there is going to be a tremendous growth in international terrorism over the next decade or so not only directed towards Americans, but throughout the world, and I think it is going to have a tremendous impact on how we conduct our foreign policy, tremendous impact on how American business operates abroad. I think it is a very, very serious matter indeed and it deserves a very high priority.

Now, one of the interesting features of international terrorism is that it is not like searching for a fixed silo in an intercontinental

ballistic missile field in Russia. It is an entirely different enterprise.

The international terrorist organizations are surprisingly diffuse around the world, I mean surprisingly spread and dispersed around the world, and one has to rely to an extraordinary degree on human intelligence as opposed to the technical intelligence capabilities that we were discussing earlier that are so important to support our military forces.

There is also, because of the interaction between domestic consequences and consequences on U.S. citizens and for collection abroad, the issue of the responsibilities for the law enforcement community versus the foreign Intelligence Community. In many of these cases, matters are proceeding well.

The relationship between the CIA and the FBI in the field is much, much better than it was, and it is strengthening every day. Louis Freeh and I meet periodically. Jamie Gorelick, the deputy attorney general, and my deputy, George Tenet, meet biweekly. We have a series of activities in the field, which will move us together, between law enforcement and foreign Intelligence Community.

As I mentioned in my comments, it may be necessary to conceptually consider this relationship again, given the evolving nature and the transnational nature of this threat but not from a point of view of day-to-day activities and I'm urging you to consider that in your deliberations here.

The Counterterrorism Center, which is the central organization for the Intelligence Community to collect foreign intelligence for this purpose, with its representation by FBI members, Secret Service members, NSA members, is the beginnings of a very, very constructive effort to address this on a Community-wide basis. We are not here, I think, resource limited. We are shifting resources to it, and we will continue to give it very high priority.

But you are right to take this on as being one of the central issues for the future.

Mr. LEWIS. Thank you very much, Mr. Director.

On a totally different subject area, the impact of states raiding of intellectual property by some of our trading partners could have a serious economic impact upon the United States, and I would be interested in knowing or hearing some of your thinking regarding the Intelligence Community's role in protecting American jobs as well as economic competitiveness of our country.

It is very popular these days to point one's finger at corporate welfare or corporate subsidy, et cetera. On the other hand, other countries seem very ready to be involved in the kind of raiding I suggest.

What is your thinking?

Mr. DEUTCH. Mr. Lewis, I think that this is a subject which we could only do justice to in a closed session, but let me say that I think the Intelligence Community does have responsibility for keeping our policymakers aware of illegal activities that other nations may be performing against U.S. companies in the commercial marketplace.

Mr. LEWIS. One of my staff just told me that the Speaker changed it [the length of tour on the Committee]; it is 8 years. So

someone will have to put up with us longer than they thought. In view of that, I will ask another question.

The 8 years is important to me versus 6, because I have been concerned of late about what appears to be a shortness of collective memory as we deal with the Intelligence Community.

I was fascinated by the interplay between Congress putting pressure on NSA over a number of years before I arrived in the Committee, pushing them to centralize their activities, I guess in part because we wanted to be able to measure just how much activity there was. They moved to a central location. Their personnel and numbers were more apparent to us, the dollars in their budget more apparent, and it was Congress that then began to criticize all of that. They came together because Congress pushed them to come together.

In turn, I think some of our staff with short collective memory had forgotten that they asked the questions a few years before and were the source of the pressure. Since then, we have seen NSA come under a variety of criticism that kind of reflects maybe that past embarrassment on the part of our staff.

I am being reasonably candid here, Mr. Director. It seems to me that that sets the stage for criticism that is not helpful to the Community. It can undermine confidence in the work of the Community when we suggest, for example, a major project of NSA that leads to dollar reserves is dissimilar from our authorizing an aircraft carrier and then beginning to spend the money over time. It seems to me that that is the level of criticism that is not helpful to the Community's work.

What is the role and responsibility of the DCI in supporting the Community and countering that kind of criticism when it takes place in the public arena?

Mr. DEUTCH. Well, I think that that's one of the central responsibilities of the Director of Central Intelligence. I mean—and I certainly take extremely seriously the current circumstance where I believe that one of the important achievements I would hope to have in my time as Director of Central Intelligence is to improve the understanding of the American people about the accomplishments, without sacrificing sources and methods, and strengthen the support of American people in Congress for what these agencies are going to try—what these agencies are doing, and doing successfully.

Now, in order to do that, we have to assure that there is strong and responsible management of all these different agencies, and I try to contribute to that as well.

NSA is a perfect example of an agency that has done unbelievably great things for the country, and I might add, it's rarely appreciated how well they work in that effort with the CIA. So this really is an example of a symphony building, and I think it's an important part of my responsibility, first, to assure you and the American people that they're effectively and responsibly managed and, secondly, to defend their contributions as best one can in public.

Mr. LEWIS. Thank you, Mr. Chairman.

The CHAIRMAN. Ms. Pelosi.

Ms. PELOSI. Thank you, Mr. Chairman.

Good morning, Mr. Director. Thank you for being here.

I wish to first associate myself with the remarks of our Chairman, Mr. Combest, when he said your diligence and professionalism are appreciated. I would add to that, the great depth of knowledge that you bring to the challenges that you have are a source of confidence to many of us, and I wish you much success in what you are doing.

I am going to have a few short questions. I was interested in your priority list in the international context in the beginning and wonder if they were in any particular order. For example, your first one, ideology, countries with ideologies inimical to democracy; for example, Iran, Iraq, Libya. Would that be the first priority, or is that just a list?

Mr. DEUTCH. That was just a list, Ms. Pelosi.

Ms. PELOSI. Okay. Are Iran, Iraq, and Libya, the only countries that fall into that category?

Mr. DEUTCH. I thought that I said Iran, Iraq, and North Korea.

Ms. PELOSI. Excuse me, I am sorry, North Korea. Are they the only three?

Mr. DEUTCH. No. I just meant that to be illustrative.

Ms. PELOSI. For example. Thank you. And I may have missed it, but did you say anything about narcotics in that list?

Mr. DEUTCH. Yes, I did.

Ms. PELOSI. That is the one I missed, because I have seven, and you had eight categories.

Mr. DEUTCH. I'll be happy to give you my precise list, but transnational groups involved in terrorism, organized crime, and narcotics—

Ms. PELOSI. It came under transnational, okay. I would think that the terrorism issue would be such an overwhelming issue, but you are telling me this is not in any particular order?

Mr. DEUTCH. Correct. And I might also add that terrorism, organized crime, and narcotics oftentimes come together in one package. It's not always—the categories are not separable, sometimes they come together. Oftentimes they come together.

Ms. PELOSI. Unfortunately, I think we will find narcotics rearing its head in many different combinations. But I appreciate your making that clarification.

In the technological context, there was interest in what you had to say about the spread of advanced technology and who is selling this advanced technology, and I wondered if you could comment on the fact that last week the UNICEF issued its progress report, "50 Years." Usually they report on literacy and malnutrition or hopefully improved nutrition.

This year they took another tack. It was called the antiwar agenda, and they mentioned in it that in the present situation 90 percent of the people killed in war are civilians, as opposed to, say, World War I, where it was 18 percent or something like that.

As we become smarter about our weapons and the technology increases, is there any consideration as to why the—I know our first responsibility is to protect our troops, but why civilian deaths are so much higher a percentage? Is it that we are protecting our troops so much better that they are not dying, but the collateral damage is not a big consideration for us?

Mr. DEUTCH. No, I don't—I don't know the UNICEF report, but let me just point out that if you take a place like Rwanda and Burundi, that the military engagements between Tutsi and Hutu forces was an infinitesimally small fraction of the carnage that was committed against the civilian population, and that was because in that particular context, I don't know whether this is what they're referring to—

Ms. PELOSI. Their context was more like Iraq, but we don't have to go into detail on that.

Mr. DEUTCH. I think in Iraq you would find probably the historical percentage was a better guide. In general, we have a problem with mines, a very desperate problem throughout the world. It is true, I think for a long period of time, it's been our kind of military doctrine to try to avoid collateral damage, and I think that the record will show that all of our military forces are trained and operate in a way which is intended to minimize collateral damage, whether—in all of their operations. And I think our record on this would be very, very strong indeed.

Ms. PELOSI. I appreciate that.

Now to a completely different subject, just following your outline. On the how we are going to get some of this done, how we get there, you talked about the integrated approach to the budget and went into detail about even having the DCI approve reprogramming from other intelligence agencies other than the CIA.

Do you have a reading on how these other agencies will respond to that? Is that—

Mr. DEUTCH. They'll go out of their minds, Ms. Pelosi. They'll go out of their minds. I mean it's unheard of. This is especially true for—other than Department of Defense, the other parts of the Intelligence Community. This is an unheard of deal. On the other hand, I must say that I think it's a necessary step, once the national foreign intelligence budget has been approved.

Ms. PELOSI. If I may just say that I appreciate your including diversity in your other series on how we—I think it was called “people,” the category called “people.” I commend my colleague, Mr. Coleman from Texas, for his leadership on this issue, and our Chairman for the hearings that he had on diversity. Unfortunately, I had a serious conflict that day and could not be here. But I appreciate what you said that day. I also appreciate Mr. Coleman's insistence that we are making progress. That we are doing better, et cetera, will be more clearly demonstrated as we see what that progress is.

You said very correctly that we must draw upon the full diversity of our country, but there is such an upside in the Intelligence Community in doing that because those are all resources, whether it is intellectual, linguistic, cultural, or whatever, that I think will enhance our intelligence capability, in addition to being the appropriate way for your agency to go. If you would like to comment on that.

Mr. DEUTCH. Well, I—you've restated my position on this, and the Community's position, and I might say the tradition of the Community. We believe it's very important to take advantage of this strength of the country; we're doing so.

Ms. PELOSI. In closing, I would like to wish you luck in how you deal with your approach in terms of performance, rewarding performance, et cetera, and dealing with the established way of doing things across the board in the Federal Government.

Mr. DEUTCH. We will need your help to give us the authorities to carry out some of these personnel changes.

Ms. PELOSI. Thank you, Mr. Chairman. Mr. Director.

The CHAIRMAN. Mr. Goss.

Mr. GOSS. Thank you, Mr. Chairman. I apologize for being late, Mr. Director, Mr. Chairman.

I am somewhat disappointed that we are not going to be able to proceed in closed session, which was my hope, and in fact most of the time I wish to use today would have been in closed session. I think there are some extremely hard points that need to be frankly and candidly discussed between the oversight and the Community, and am I assured that we are going to have that opportunity, Mr. Chairman? I am assured, at least staff thinks so. I hope that will—I hope that will be early on in the new year, assuming we ever get through this year.

I would like to talk a little bit about the atmospherics. We are at a point now where Agency bashing or Community bashing is fashionable, probably damaging, certainly not good for the people, professionals who are trying to move forward and serve our Nation's interests there. We are in the process here, in IC21, and our counterparts, the other body, are doing similar type exercises.

There is the Aspin/Brown Commission. Do you see anything useful or positive that can come out of these efforts for the role and the mission that you have of what is going forward?

Mr. DEUTCH. Mr. Goss, first of all let me say how pleased I would be to come back here and have a discussion on some of these issues in closed session. I do think that's absolutely essential. I don't think we can get to the bottom of lots of important subjects in an open session because of the need to protect sources and methods.

Secondly, with respect to your question about the atmospherics, I have written publicly and I have urged that we turn the corner, if you like, on this criticism. The criticism is directed toward really only part of the Community, we have to admit that, which is the clandestine service. I spoke here in my statement today about how key they are and unique they are in the kind of investment they mean for this country and how it has to be supported over the long term. So I share with you the need to recognize that there were some very, very tragic shortcomings of the clandestine service, but that it has taken those on board and understands what's necessary for the future; it's a critical capability for the country, and that it is time to give them support.

I regret that I myself am from time to time quoted and what is chosen to be quoted are the points I made of criticism, rather than the points I made of strength. Here today, I've said how key they are to addressing the terrorism issue. You're not going to get to terrorism, the terrorism target, without making use of clandestine intelligence.

So I would just share with you a certain frustration that at the same time we recognize the shortcomings of the clandestine serv-

ice, we recognize their tremendous importance for the future, the tremendous skill and dedication of their officers, and we try and speak to that in a balanced way. Unfortunately, you can't always modulate that as well as you would like, I'm certainly conscious of that.

Yes, I think something could come from the myriad of groups that are looking at the future of the Intelligence Community from this effort, to the effort with which you are involved with Mr. Dicks on the Aspin/Brown Commission, and for many others which are under way. And that is for the country to understand that responsible, independent, qualified people have reviewed what the Intelligence Community is doing after the end of the Cold War, have reviewed the fact that the Intelligence Community is still needed, that there are a set of important needs, some of which I've tried to sketch today, and that, indeed, the Community is going after meeting those needs that the country has, both effectively and responsibly, in a way that the average American citizen if they were granted full knowledge of the operations and the activities, would say, yep, that's what you should be doing.

So I do think that the central most important part of these activities, especially this Committee, is to reassure your colleagues and through them the American people that the Intelligence Community has got a purpose after the Cold War, that it is attending to those key purposes, and that it is being managed in an effective and responsible way. I do not think, as I said earlier in my remarks, that it's called for a massive change in authorities in one part of the Community or another, or major reorganization. What is needed here is a sober, objective, and strong independent statement of why we need intelligence in this country.

Mr. GOSS. Thank you. I think that is a very good and encouraging answer. And it certainly makes me want to continue contributing the amount of time I have put in. The reason I asked the question in part is I know as Director how busy you are, and I know how many times you have had to testify to so many committees.

Mr. DEUTCH. One other thing I would add, Mr. Goss, progress will not happen here in a day or a week. It's going to take a long period of time of sustained management attention. And over and over again I want to stress that these are things that you need time, the taking advantage of information technology, the putting into place the kind of human intelligence service that will give protection against terrorist threats, learning to work more effectively with the law enforcement community. All of these things are going to take time. They don't happen overnight.

Mr. GOSS. I think the fact that there is a commitment to do it right and to make sure as we go along we are checking ourselves is encouraging, and I appreciate your responses. I presume we are having another round, Mr. Chairman?

The CHAIRMAN. We are.

Mr. GOSS. Thank you. Thank you very much, Mr. Director.

The CHAIRMAN. Mr. Coleman.

Mr. COLEMAN. Thank you very much, Mr. Chairman.

Doctor, welcome. Nice to see you again. I think maybe the questions I had for you in open session have been asked, actually. In fact, your last comment to Mr. Goss I think is critical. I am one

of those who thinks maybe we dwell too much, spend too much time on the issue of your relationship to the entire Intelligence Community. You used the term I think the "hub," the wheel out there, the spokes; unfortunately maybe tied to that hub only by your presence and the fact that you have had experience in the other arena over at Defense. I don't know whether we need to dwell any more on that.

I think you are right in your last comment to Mr. Goss, however, that is, that overall the real issue is how we are going to deal with our personnel within the Agency and whether or not we can make some sense out of the budget in a way that we on the oversight committees can appropriately deal with the overall issues with all of the different intelligence agencies. Having just one spokesperson may make it easy for us. On the other hand, some might criticize that idea as perhaps putting too much power in one agency. I don't know that that would be the case, but you may want to comment further on that issue. I don't think it is all that helpful to dwell so much on that specifically, as I think we tend to do. I think all of us in looking for order would like only to have to go to one place to talk about all of the issues.

Mr. DEUTCH. Well, simply put, on that point, sir, I'm advocating greater centralization of the program planning system for resource allocation. The execution, I have said repeatedly, remains in the agencies, under the direction of the Secretary of Defense and the Secretary of—or the Attorney General or wherever the element is, the organizational element is. So I think that the correct balance between central and decentralization is the execution is still decentralized in authority, and it's the program planning part that is centralized.

Mr. COLEMAN. Right. I understand. I think that is the key part.

An issue that I was, as former Chairman of the Legislative Subcommittee that we had as a subcommittee of this full Committee—it has been changed now into more I think processes rather than the way we had done it before in terms of this Committee, and so we don't have a subcommittee that deals specifically with legislation.

I would say to you that in the last term of Congress we dwelt a great deal on the issue, not just as a subcommittee but even as a full Committee, I think all the Members that are here would remember that we did, on the issue of the relationship between the Agency and law enforcement. Those are difficult questions, given the charter, given the Constitution and past statutes. This is not new. I mean, we always think that maybe we are breaking new ground here, and I suggest we are really not, that many of these issues have been debated over and over again.

Times, however, change, and as was pointed out by Mr. Lewis, we all have that same concern about the new realities, internal and external terrorism, the issues of crime, as you pointed out, narcotics and the rest.

A lot of us think—I think, at least, that it is important that we have very clear lines so that persons that work in the Agency as well as persons who work for the Bureau, for example, or for the Drug Enforcement Administration, or any other law enforcement entity, all understand their lines of responsibilities and they are

clear. I think it is especially important at the CIA, however, because of the statutes and the requirements of the charter.

I would hope that we could go into some long or more serious discussion, maybe this is appropriate for closed session rather than open, because I think there are a number of issues that I think everyone understands that are important, issues of sources, issues of what has to be made available in courts, whether or not we have successful prosecutions that we can carry to their end or not. I would hope that in doing that we could perhaps set up a mechanism by which we have those counsels who advise the agencies that I just referred to, including yours, so that we could have a very serious discussion about where we are and if we are at the right place and whether or not we do, in fact, need legislation.

I think it is something we need to continue to monitor. Just as one individual in this country that believes we have had the right—we have had the right mix historically in that arena, there are some who would disagree with that. I like the idea that there have been clear lines about the responsibility inside the United States vis-a-vis the Agency's role outside the United States, and I again would welcome any comments you might have in this round, but in addition would look forward to maybe even further meetings on the subject.

Mr. DEUTCH. Well, Mr. Coleman, let me just say that I don't think one can consider the Intelligence Community in the 21st century without bringing up this issue of the relationship between law enforcement and foreign intelligence overseas. Let me emphasize that I'm talking about overseas, not inside the United States.

So the first thing is, is that I almost felt compelled to raise this issue as being one of the hard issues—because of what's happening in the outside world, both the technical but more importantly the international threat which is out there. That's the first point.

Secondly, I don't have a magic solution to give you on this. I think you're right, it's been worried about, talked about. And I don't have a crisp solution which would make this problem go away that I could put before you.

Third, I will say that in a practical working level, the cooperation is improving every day and is much better in the areas of terrorism, counternarcotics, especially between the Bureau and the CIA. That is an important point to report on. But I do think that it continues to need some attention because of the changing nature of the threat, and I think it is a subject that ought to be considered in closed session in greater detail.

Mr. COLEMAN. I think my concern is that it is right now maybe being more personality driven than it is looking at the statute books. I don't know that that is important that we have it written down, because maybe we will always have people that can cooperate between, for example, the FBI and the CIA.

I have some concern that you didn't speak to—well, you have in a general sense, but just in your last comment, just use that as an example, you and I know that the Treasury Department, that we start going through the list of all of those with whom you must cooperate, and you do on a daily basis, I know, with the meetings and the sessions that you cited. I would just say I want to be very certain that we have legislatively given you the necessary authority

to do what you need to do in that regard. That is really the thrust of what my comment, and I would hope, as you said, that we could get into a much larger discussion of that issue.

Mr. DEUTCH. Thank you, sir.

Mr. COLEMAN. Thank you very much, Mr. Chairman.

The CHAIRMAN. Mr. Director, short of the fact we may not fund everything exactly at the level you would like for it to be, what recommendations would you have in how we might both expedite the budget process and/or make it simpler?

Mr. DEUTCH. Well, I in my brief time as Director, Mr. Chairman, I would not characterize Congress' consideration of our budget as having been, I may get myself in trouble here, it's not been one of our main problems. I actually think it's gone pretty well. I wouldn't give you that as one of my main issues. But I will reflect on that and if I can get back to you, I will.

The CHAIRMAN. And that would be fine. Again, it doesn't—this is not something that would be suggestions to make a change, certainly not to be taken personally. I just think that we need to look at our budget process here to see what we can do, whether it is on a longer term basis, whether it gives more flexibility, whether it would allow better long-range planning, if there are things we might do. I would certainly ask you to reflect on those in the future.

Mr. DEUTCH. Thank you, sir.

The CHAIRMAN. You had mentioned something, and it would have been the first question I had asked had you not brought it up, and we would ask you to expand on it as we look at further suggestions later in the hearing process, relative to the position of the DCI. One of the things we have looked at—again, we are not wed to this, this is not a proposal, it is a question that I keep coming back to that I want to try to get a full airing of—is a national director of intelligence, director of national intelligence, whatever we call it, that would be I think, in many respects similar to what the DCI does today.

The question was asked of the former DCIs and their response was that they did not think it would be a good idea. We pursued that with them later, in other meetings, and even in that hearing. Mainly their objections seemed to be, and there were others so this is not the total reasoning for their objection, that they wouldn't have the resources that would give them the authority or power to do what they would need to do within the Community. So we said, well, what if we gave them the resources to do that? Their opinion seemed to change on that somewhat.

Another thought has been whether we need to do something in terms of consolidation of intelligence within the Department of Defense, to have a director of military intelligence in the Department that would be a four star level, the ability to work more closely with and even potentially sit with the Joint Chiefs in working up the intelligence needs of the Defense Department?

Would you comment on both of those, as to what your thoughts would be and suggestions, pitfalls or whatever, that you might immediately see as problem areas?

Mr. DEUTCH. Well, I do not understand sufficiently the distinction between the proposal for director of national intelligence and

the current Director of Central Intelligence. And I've never quite understood it satisfactorily and it raises in my mind not only questions of the authority of the Director of National Intelligence relative to the component agencies and to the resources as you mentioned, but also the relationship of the Director of National Intelligence to the national security advisor and where that individual would actually sit. Depending upon how you define the Director of National Intelligence, it may be just an adjustment to the current way that we think about the Director of Central Intelligence, or it could be on the other extreme a proposal to take away the double hatting of the Director of Central Intelligence as also being the head of the CIA.

It seems to me that by augmenting somewhat the current authorities in the Director of Central Intelligence, you can move to some of the attributes that one wants in a Director of National Intelligence without removing the Director of Central Intelligence away from the single independent intelligence agency of the government, which is the CIA. One could almost argue at the other extreme, and I would not—that's where I'm at, that's what I favor.

To the extent that one wants to move to a director of National Intelligence, you do that by augmenting the authorities in the Director of Central Intelligence. You continue to have a Director of Central Intelligence be the head of CIA because of the strength that gives him, not only from the point of view of resources, but also from the point of view of an independent intelligence knowledge that he or she brings to the President and to the policy process. So that's where I am on that.

Now, I must say that I have heard proposals about a director of military intelligence, and I don't think that that's where the problem is at all in the Department of Defense. And here I speak with some considerable certainty. Where we have a problem in the Department of Defense, in my view, is twofold. One is the process which was discussed earlier of assuring that intelligence is not a parallel activity to the CINCs and the combined unified specified commanders, but it is an integral part to the way they're doing business. And indeed, I think the integration of intelligence and operations is where we're going, in terms of warfare.

So setting apart a separate military intelligence structure is in my mind not a useful way of achieving that. I think there are some very important discussions about balance between DIA, the J2 and the service assistant chiefs of staff for intelligence that, frankly speaking, that's second order.

The place where I am most concerned in the Department of Defense is the complexity and the magnitude of the single position of Assistant Secretary for Command, Control, Communications and Intelligence. It is civilian control which is what has to be considered in the Department of Defense.

Today you have a Secretary of Defense who is an intelligence expert. He founded a company dealing with this, so that you have a different circumstance. The connection and the breadth of responsibility of the Assistant Secretary for Command, Control, Communications, and Intelligence, how that individual on the one hand relates to the Under Secretary of Defense for Acquisition and Tech-

nology and on the other hand to the Under Secretary for Policy is terribly important.

I find the situation in Defense is that one has to look for stronger—engagement in the sense of the time available to worry about intelligence matters in the civilian management of the Agency.

Now you say, well, you can't separate intelligence from command, control and communications, because it's so integrally related. That's true. The fact of the matter is that it's become such a huge interconnected enterprise there, that the focus on the actual intelligence activity is not, in my judgment, what it should be from the point of view of planning the program and having oversight over the actual execution of the program. And the Deputy Secretary of Defense, who you might turn to to solve all these problems, is stretched a thousand different ways. And even when there is a Deputy Secretary of Defense who also loved intelligence, you don't really have the time to do it. So that's where I think—and when I talk to my friend, Hal Brown, or Les Aspin, when he was alive—I think that it's not the DMI here, it's not a military uniform problem. Because there, I would move towards the joint command structure, the J2 and the J3 working together and getting this information out and into the hands of the CINCs and the big joint intelligence centers in the field.

The CHAIRMAN. I won't—I could explain I guess for 15 minutes basically what our thinking is. Let me just make this quick comment, it may or may not need a response. Then we will go to Mr. Dicks for the second round.

The idea that we need a Director of National Intelligence sprang from the amount of time that was necessary for the then DCI to spend in dealing with all the fallout of the Ames case as it began to break, and wondering if the head of the Central Intelligence Agency's role took so much time away from the idea of the Director of Central Intelligence looking at the whole Community, that if it might not be something to consider to have a separate head of the CIA?

I sort of divide this in my mind, somebody in military and someone in civilian intelligence. We might call it the CIA, let's say, but we might have a director of the CIA that's loyal, was to deal with that agency; that the DCI, Director of Central Intelligence, or the Director of National Intelligence, whatever, obviously then spends more of his time in the overall Community direction. Obviously, this is the person to whom everyone has to turn, giving them the resources to distribute out in developing a national intelligence architecture to deliver the needs.

If you had, for example, the Ames spy case in the NSA, it would be that, rather than the Director of Central Intelligence coming down and spending so much time, more of the time would have probably been delegated to the Director of the NSA to deal with the issue because it was internal to that agency.

And you do view the DCI as being the head of the CIA, and we are going to dump all of the problems that occur there on to the lap of the DCI. And again, not in a critical role, I am not being critical about this at all, Mr. Director, I am just trying to wonder if there is a way that gives that person more of an opportunity to look at the entire picture, or does it take up too much time, being

the head of the CIA? And that is sort of what brings the question up.

Mr. DEUTCH. Well, Mr. Chairman, let me make a couple comments. First of all, I don't think any of us ought to design a system predicated on being able to deal with Ames' matters better. We fondly hope that that's not going to happen again. I am making a joke, but I must say that that really is a unique, I hope a unique event in the history of this country, and one which certainly took up a lot of my time and my predecessor's.

Secondly, let me say to you, Director of Central Intelligence is not alone. I have a deputy director who is fantastically capable.

Is this a closed hearing or an open hearing?

The CHAIRMAN. This is open.

Mr. DEUTCH. I'm just kidding.

He's fantastically capable—and it's been true in the past as well. There's a great tradition of strong deputy directors there, from Frank Carlucci all the way to the present. So that you do have tremendous help.

And there's a tradition here of sharing some of these problems. That's—I want to also make the point that this deputy director George Tenet here is tremendously helpful and in my case absolutely critical.

Third, I must tell you that I as a matter of management judgment, have strengthened the authority of the executive director. Executive Director Nora Slatkin, as I have said several times, is the chief operating officer of that agency. And Nora Slatkin is completely capable to manage many of the things on a day-to-day basis. That helps a lot. Previous directors have or have not taken advantage of the position of executive director.

Finally, let me say that if there is a catastrophe at the National Security Agency, or if there is a catastrophe at the Defense Intelligence Agency or at the National Reconnaissance Office, two things are true. The fact is it may be that the Director of NSA will be the one who testifies more, but that goes back to my prior point, there should be civilian responsibility and authority and accountability in the Department of Defense about that. And it has also been my observation that they turn to the DCI anyway in those matters.

I spent a lot of my time on what's going on in these agencies in front of Congress. But I do think that the way I would answer your point about what if there was a catastrophe in the NSA, the Director would be doing it. I think that there should be a more visible and more accountable civilian manager for that in the Pentagon. That's where I would go on that subject as well.

The CHAIRMAN. I appreciate your comments, Mr. Director. And it is not an idea of just wanting to change. We are looking at—

Mr. DEUTCH. I understand.

The CHAIRMAN. When someone in your position comes up here and says it is not a problem, obviously that weighs a great deal.

Mr. DEUTCH. And I appreciate the—some of the aspects which lead to it.

I must tell you that I have a problem with the early proposals that seemed to want to put the Director of National Intelligence in the White House, if you recall. That's what really sets me off, okay?

The CHAIRMAN. I will say, none from us.

Mr. DEUTCH. Okay. Those lead you—some people it has led historically in that direction.

The CHAIRMAN. Mr. Dicks.

Mr. DICKS. I want to follow up on this just for a second, just to see if we can clarify a few things.

The Georgetown Institute for the Study of Diplomacy posed this question to the Aspin Commission: "If the Intelligence Community is to become more competent, efficient, and cost effective, the commission must come to grips with an issue central to its mandate, who is in charge of the Community? The DCI, who now nominally heads the loose confederation that is the Intelligence Community, controls only a fraction of its budget and appoints none of the chiefs of the agencies that comprise it. The DCI needs clear lines of authority commensurate with his responsibility, control over a single intelligence budget combining both national and tactical programs, and a stronger voice in appointing the heads of Intelligence Community organizations."

Now, as I remember your testimony today, you did say that you would like to have approval of the people who are going to be in charge of the NSA and the various entities?

Mr. DEUTCH. The proposal in front of Congress that Bill Perry and I sent there says that the Secretary of Defense appoints the Director of the National Imagery and Mapping Agency, with the concurrence of the Director of Central Intelligence. That's the way Bill Perry and I approached the National Imagery and Mapping Agency. And I would make that same parallel structure for all of the major entities in the Intelligence Community, in the Department of Defense and elsewhere.

Mr. DICKS. So you want the ability to sign off on any of those people?

Mr. DEUTCH. Correct.

Mr. DICKS. Also—

Mr. DEUTCH. Now, if I can go on one moment, Mr. Dicks. The second point I would say, is that the Director needs to have more authority in the bringing together of the 5-year program plan and budgeting for the entire Intelligence Community. Now we're talking dollars. If you include JMIP and TIARA, you've got 90 percent of that total. So you don't have to really take on the small State Department or DOE or FBI.

Mr. DICKS. The things that are outside of the NFIP?

Mr. DEUTCH. Correct, that's right. And the fourth point I said is if there's reprogramming of people or dollars during the year, then I think the DCI has to approve it. OK?

Mr. DICKS. OK.

Mr. DEUTCH. Now, it does not go as far as the statement you just read, which I would not subscribe to, that the management responsibility for the execution of the program should be taken from the Secretary of Defense or these other executive branch heads.

I think that the management and the execution has to be left in the hands of the various component executive branch departments because that's where their mission is and the integration of intelligence into military operations, for example, is so important. The integration of the diplomatic and intelligence research efforts in

State are so important. I do not believe that the functional responsibility of the intelligence Director should take over the mission responsibility in the execution of the program of the executive branch departments.

Mr. DICKS. Okay. Let me ask you this. When you would get together with Mr. Woolsey to work up the intelligence budget, and you have JMIP, let's say you have JMIP, TIARA and the NFIP, what would his role be? I mean, would he just present the part on the NFIP and you would present the part on the JMIP and the TIARA, or would you look at it——

Mr. DEUTCH. Jointly. Absolutely jointly. Now remember, these are circumstances that came because of relationships between people. Jim Woolsey and I agree—let me go back before that, excuse me.

Jim Woolsey and Bill Perry agreed, when Bill Perry was Deputy Secretary, that the intelligence program between Defense and the Community, would be looked at as one. And so the presentation of the national foreign intelligence budget, the Joint Military Intelligence Program, and the Tactical Intelligence and Related Activities program, occurred in the same set of sessions before the Deputy Secretary and the Director of Central Intelligence cochairing them. That practice was continued when I became Deputy Secretary, and I'm continuing that practice now that John White is Deputy Secretary. It is, I might say, very much an ad hoc process. And there is no explicit recognition of DCI authority or responsibility to review the JMIP and TIARA programs.

Mr. DICKS. Do you think that ought to be put into—do you think that is one area where we could have——

Mr. DEUTCH. That's one of the suggestions I'm making to you. But not to execute the program.

Mr. DICKS. You still think the DOD should execute TIARA and JMIP?

Mr. DEUTCH. Correct.

Mr. DICKS. And you execute the NFIP?

Mr. DEUTCH. No, the DOD executes huge parts of the NFIP as well, and I want the execution to be decentralized. This is a compromise, but you always face this compromise when you have——

Mr. DICKS. How do you, then, manage the Community if you have the Defense Department managing these entities? I mean, how do you get strong—you don't get strong management.

Mr. DEUTCH. There are dozens and dozens of places in the private sector and elsewhere in government where there is this matrix management problem, where there is functional responsibility, and where there is mission responsibility going at a horizontal direction, and one has to decide which way one is going to go, principally for the execution of the program. I believe that the principal obligation for the execution of the program has to be with the Secretary of Defense. Why? Because integrating intelligence and operations can't only be done at the last minute in wartime. It has to be integrated throughout the process. So that's where I am on this question. It's a compromise. There would be a whole terrible series of problems if the Director of Central Intelligence was given responsibility for the management of all of these programs.

Mr. DICKS. So the idea of Community management, then, is a myth?

Mr. DEUTCH. No, no, because the Community management has to do with bringing the program budget plans together and presenting the program. Formulating the program and presenting the 5-year program and the budget.

Mr. DICKS. And now in your change, helping to appoint the personnel.

Mr. DEUTCH. Correct, now in my change also adding JMIP and TIARA, but not on the execution side.

Moreover, let me say to you, not everything, as hard as this is for you and I to believe, is budgets. There are collection priorities that have to be done, there are the personnel rules we've talked about, there are the foreign relationships that are so much a part of DCI's job. There's a whole series of other important jobs like providing objective and timely advice to the President and other policymakers. There's a whole series of other things that need to be done by the DCI as well.

Mr. DICKS. Well, my time is expired. Let me ask just one parting questions. On the National Imagery and Mapping Agency, much has been made that the national users won't be taken care of. Can you assure us today that the way this thing is constructed the national users will still be protected?

Mr. DEUTCH. I certainly hope that in our discussions with this Committee, that those who have a concern about the national user will be satisfied that the national user will not be at risk because of this move.

Mr. DICKS. Thank you, Mr. Chairman.

The CHAIRMAN. Mr. Lewis.

Mr. LEWIS. Mr. Director, I am sure that you were very aware of that part of the budget discussion this year that involved the presumption on the part of many that the President would veto the defense bill. And from that veto would come all kinds of money for a number of subcommittees in the appropriations process for which we had many a use.

There is an ongoing presumption in this place, in this time of peace in the world, that thus less money is needed for national defense, shrinking defense budgets are obvious. Parallel to that is the almost automatic assumption that intelligence is all but not needed.

Two lines in connection with that thought. First, you suggested that there are those who would have the Director of National Intelligence within the White House, and the Chairman appropriately said, not from this Committee. Nonetheless, the Community's number one customer, and one would hope consumer, should be the President of the United States. I am comfortable, very comfortable, with that prospect while you are Director. I am not convinced that that has been the case recently, or preceding you, or will be after you.

Is there a need to some way change the rules of the game, statutory or otherwise, to assure at the highest level this information developed is consumed?

Mr. DEUTCH. I don't know of any statutory way of doing it. But, Mr. Lewis, let me say that I do believe that it is a central impor-

tance that the President of the United States and the Director of Central Intelligence get along with each other. I think that's absolutely key. Otherwise the kind of principal function that you point to cannot take place satisfactorily.

Mr. LEWIS. One can just wring their hands about it, but the personal relations are very critical.

Mr. DEUTCH. I think that's true between the President and his key advisors, and I certainly believe it for intelligence. And fortunately in recent years I think that that's been very much, very much the case. At least I'm personally comfortable about it. And we had the good fortune of having a Director of Central Intelligence, also the President of the United States the time before, so it worked well then. So I think that the relationship between the President and his chief intelligence advisor is important and therefore the Director should be the person the President chooses.

Mr. LEWIS. Do you agree with the thought that there could be some danger in presuming that intelligence, the Intelligence Community's support should shrink or that shrinking should parallel the defense spending?

Mr. DEUTCH. Well, my principal responsibility is to show the President and to show Congress the consequences in reduction in expenditures. It's up to you all to decide whether you want to take the reduction in capability that accompanies a reduction in budget.

What I do resist very much are people who say we could take the money and it doesn't matter. It does matter. It will lead to less capability. And what I want to make sure that the leadership and the executive branch, Congress, understands is that connection. It's very important.

And secondly, as I said here earlier, I am quite comfortable to allow intelligence programs to compete in the Department of Defense programming against platform programs, according to available resources. Because I know that the technological imperative is more brains in the front end of military systems. I don't mean more brains, I mean more intelligence in the front end of military systems. And I don't imply there haven't been. The technology hasn't been there for that purpose before.

And so in my judgment, my first response says you take this money away, here's what you're doing to reduce capability, and Congress and the President have to decide whether that's okay. And secondly, to assure that we can have an honest competition between platforms and intelligence in the execution of the defense budget.

Mr. LEWIS. And the assurance of honest competition is problematical, to say the least. The price of peace is not cheap. And the reality is that about the time you really need the information, could very well develop following an extended period of presumption, that all is well.

And placing assets, collecting information, laying the foundation, making sure that we can justify what is sometimes the very sizable expense of NSA's work, et cetera, all of that presumes a country that is sensitively aware and on guard defending peace and protecting freedom. And that is a challenge and I am not sure—I have reservations about how well-prepared the Congress is, long-term to, recognize our responsibility in connection with that.

Mr. DEUTCH. Yes, sir.

Mr. LEWIS. Another time.

The CHAIRMAN. Ms. Pelosi.

Ms. PELOSI. Thank you, Mr. Chairman.

Mr. Director, I was pleased to hear what I interpreted as the reassurance to Mr. Dicks about protecting the interest of the national users at the National Imagery and Mapping Agency, and want to associate myself with that concern that he expressed.

I want to go back to one point that I made earlier about diversity and say that we were talking about in terms of outreach and recruitment, but of course that all applies to management and advancement within the Agency as well. I want to say that although I couldn't be at the hearing, I listened very attentively to what you said, because I stayed up all night to watch it. My daughter said I should join the get-a-life club, but it is a very, very important issue to many of us in the Congress.

My question now is in light of what you presented this morning. I wondered if what I am going to ask is included in that or if there is some other initiative on it. Are there preparations being made, for example, to monitor the Comprehensive Test Ban Treaty? Many times in our discussions some of the wise persons from the Stanford University area who have been resources to the Agency and also to some of us, they have justified increased intelligence spending on the basis of some of our interest in the Test Ban Treaty and also the Nonproliferation treaty, that if we want those to be real, we have to have strong verification. I would hope you could just mention if any preparations might be made for that verification, and if it is included among priorities under some title?

Mr. DEUTCH. Ms. Pelosi, there are provisions in the National Foreign Intelligence Program for verification of the Threshold Test Ban Treaty and the Comprehensive Test Ban Treaty, should it pass. I'm not immediately knowledgeable about what the current status is of the fiscal 1996 action, the appropriations and authorization action on this, but I will inform you.

Let me just say that our technical capabilities, seismic, other capabilities, are as positively developed as technology allows. And I do think that the program is between the Department of Defense, the Central Intelligence Agency, the Department of Energy, is in strong shape.

Ms. PELOSI. Would the National Imagery and Mapping Agency have a role in that increased verification responsibility?

Mr. DEUTCH. Certainly in the assessment stage, yes.

Ms. PELOSI. Thank you.

Mr. DEUTCH. Yes, there are points to be made about this in a private session as well, Ms. Pelosi—

Ms. PELOSI. I appreciate that. Thank you.

Mr. DEUTCH [continuing]. Which are current.

Ms. PELOSI. Thank you, Mr. Director.

On another subject, is there strong preparation being made for declassification? Could you comment on that?

Mr. DEUTCH. Yes, Ms. Pelosi, I—we are making very great efforts throughout the Community now, speaking not only for CIA but throughout the Community, on declassification, and are a supporter of declassification. I am also—

Ms. PELOSI. I didn't notice it in your—I may have missed it also in your priorities.

Mr. DEUTCH. I must say that not everything can be put in your top priority list. I didn't mention it. We've requested funds for an accelerated effort at declassification. I myself am a member of the Congressional Commission on Protecting and Reducing Government Secrecy, which the Chairman is vice chairman of. We are taking steps to assure less material is classified and that material which has been in our hands for a long period of time and can be declassified without revealing sensitive sources and methods is declassified. That's an important step that we are very much pushing and have made budget requests and will continue to make budget requests to support our declassification effort.

Ms. PELOSI. I appreciate your saying that. As you know, in years past we have had hearings on it, and our colleague, Mr. Skaggs, has been a leader on this Committee. I support his efforts in that regard.

I just wanted to return to a question our colleague, Mr. Lewis, from California, raised about the economic, I don't know what the term is, espionage or whatever. He said some people might call that corporate welfare. I don't mean to characterize your remarks, Mr. Lewis; correct me if I mischaracterize them, please. I want to make the point in addition to expressing my interest in other areas that I think that as far as that issue is concerned, and you said we'd go further into it—in closed session, but that I hope that the Community would not use that as a justification for a budget when in fact I think some of it may be in our national interest and some of it should be the expense borne by the individual companies who are concerned about who is bribing whom in what country and the rest. Whereas when it is an overall trade or economic issue of interest to our country, then there more appropriately may be a role for our Intelligence Community.

Mr. DEUTCH. Ms. Pelosi, these are important questions and ones that I've reflected upon, but I would prefer to go into in detail in a closed session.

Ms. PELOSI. I appreciate that.

May I just say that we are well-served now when you talk about the good relationship between the DCI and the President of the United States, and also a good relationship with the Secretary of Defense, of whom of course we Californians are very proud. I think we are all very lucky that everybody has an understanding and a good relationship, but we will have to prepare for the future, for a time when that may not be the case, and count our blessings for now but prepare for something perhaps different in the future. Hopefully, hopefully not.

Thank you again, Mr. Director. Thank you, Mr. Chairman.

The CHAIRMAN. The Chair would note that in order to accommodate your 12:15 schedule, Mr. Goss' completion of 5 minutes will have allowed everyone to have had two questions, or we have had two complete rounds. So at Mr. Goss' completion of his time, the Chair would intend to adjourn the Committee and accommodate the gentleman's time requirements.

Mr. GOSS. Thank you, Mr. Chairman. I wanted to go to, again, a couple of areas that I know are going to fall into the closed ses-

sion, but one has to do with the oversight process. I want to make sure that there is a system in place that everybody who is in this process on either side of it is comfortable with. And I guess the question I would ask today is are you satisfied that we have the appropriate trigger or that you all have the appropriate trigger when something is of significant importance to take the initiative to bring it forward to either the Chairman and the Ranking Member or to the full Committee? Have we accomplished that step yet?

Mr. DEUTCH. Yes. The quick answer is we basically bring everything forward.

Mr. GOSS. The question, then, is do we have a—do you all have a system that delivers that with a relatively consistent rifle shot rather than a scatter shot where we hear something in another part of the administration, read something else in a newspaper, or get different views? I understand you don't control the media, at least if you do, don't admit it today. The concern I have sometimes is that what we think is gospel when we get it and what is sometimes heard in back channels is a little different.

Mr. DEUTCH. We're very well aware of this problem and what we try to do is keep our committees informed as we're required to do by law. And we take it very seriously.

Mr. GOSS. The other management question I wanted to ask, this is something that has come up in several other discussions we have had, and again that is treading a little bit on closed session, but there is a tradition in the Intelligence Community of words like "compartmentalization" and phrases like "need to know." And there has also been a lot of discussion about a very clear need to enhance efficiency, management of the new wave type of statements, as well as the issue of accountability. Certainly in some of the things we have been reading about, there is an accountability problem. Being the director, how do we deal, who should be disciplined and who should be rewarded type questions?

My concern is I think there is a paradox between those two things. You are the chief manager and you are the person accountable and responsible for what we are doing in our intelligence capability in this country. Do you see the same paradox? If so, how do you overcome it?

It goes a little bit on what Ms. Pelosi said about some of these changes in performance and personnel. One of the questions we are ferreting out there is are we doing surgery on things that have been part of the tradition since we have had an Intelligence Community, or are we just doing a bedside manner and providing reassurance?

Mr. DEUTCH. Well, I don't believe that there is a paradox between accountability and compartmentalization.

Mr. GOSS. I don't either. But I think between efficiency and compartmentalization, there may be.

Mr. DEUTCH. There is, I agree. That's exactly what I would have said. But of those, let me just say that the accountability aspect is currently one of the greatest concerns to me, and I think tremendous progress has been made on that.

As the Community has responded, the CIA has responded to the Ames case. So first of all, I want to report that I think there's tremendous progress there.

With regard to the compartmentalization and the impact that that makes in reducing efficiency, there are two places where that may be the case. One of them is in operations, and the other is in classification in development programs. I, frankly, have less sympathy for it in the development side, and that is where a reduction in compartmentalization would save most money. So I think there's a balance to be struck here.

Accepting the compartmentalization and the efficiency paradox as you put it in the operations side, but not being so willing to accept it when you're talking about technical developments. That's where I would strike the balancing.

Let me say to you that a tremendously important challenge for our Community is keeping secrets. And I must say to you that I'm very concerned about our democracy's ability, I mean it's inevitable, to keep secrets. If we are going to be successful, we have got to keep secrets. And that means that some degree of compartmentalization is absolutely required.

Mr. GOSS. Well, I agree very much with you on that, but to some people that is abhorrent, to think we are keeping secrets from the American public. That is part of the problem that we have.

Mr. DEUTCH. Mr. Goss, I believe most Americans absolutely understand the need to keep secrets, and where the Americans want to be reassured, absolutely appropriately, is that the objective you're doing makes sense and that you're doing it effectively and responsibly. I don't think the American people object to keeping secrets. They want to make sure that our operations are consistent with American values and that they're carried out in a responsible way.

Mr. GOSS. I think that is true, and I think that that is all the more reason to understand that there is a valid need for some type of classification. But if we are going to classify things and keep them secret and keep them away from the American public, there needs to be reasonable justification for that. I think that is the area of trouble that we need to focus on.

I see my time is expired and I am sure that that is welcome news to several people. And I will at that point stop, even though I have one more question that was provided to me and I will provide it to you through staff mechanisms, because I think it is more of a technical question. It is relatively easy to deal with.

Mr. DEUTCH. Thank you, Mr. Goss.

Mr. GOSS. Thank you, Mr. Director.

The CHAIRMAN. Mr. Director, thank you very much. We appreciate it. Hearing is adjourned.

[Whereupon, at 12:09 p.m., the Committee was adjourned.]

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